

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 4-4-06
 Art Unit: 1752 Phone Number 302-1333 Serial Number: 101718, 959
 Mail Box and Bldg/Room Location: 9660 Results Format Preferred (circle): PAPER DISK E-MAIL
 (Rem.)

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Please see Bib.

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a polymer of Cl. #1

(Method of making such a polymer is
 shown in #4)
 Cl.

SCIENTIFIC REFERENCE BR
 Sci & Tech Inf. Cntr

APR 5 REC'D

Pat. & T.M. Office

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: <u>K. F. Walker</u>	NA Sequence (#) _____	STN <u>✓</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) <u>2</u>	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>4/6/06</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>30</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>20</u>	Other _____	Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED AT 10:29:32 ON 06 APR 2006

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STRUCTURE FILE UPDATES: 4 APR 2006 HIGHEST RN 879269-14-4

DICTIONARY FILE UPDATES: 4 APR 2006 HIGHEST RN 879269-14-4

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* the IDE default display format and the ED field has been added, *
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*

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<http://www.cas.org/ONLINE/UG/regprops.html>

=> FILE HCAPLU

FILE 'HCAPLUS' ENTERED AT 10:29:36 ON 06 APR 2006

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FILE COVERS 1907 - 6 Apr 2006 VOL 144 ISS 15

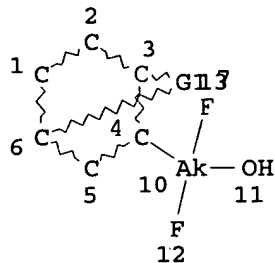
FILE LAST UPDATED: 4 Apr 2006 (20060404/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

L3 STR 1



CH2-CH2

@8 @9

VAR G1=CH2/O/S/8-6 9-3

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DEFAULT ECLEVEL IS LIMITED

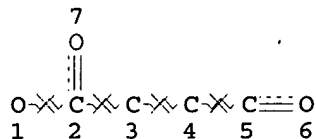
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RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

L4 STR 2



NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

NSPEC IS RC AT 3

NSPEC IS RC AT 4

NSPEC IS RC AT 5

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GRAPH ATTRIBUTES:

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NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L6 32 SEA FILE=REGISTRY SSS FUL L3 AND L4

L8 27 SEA FILE=HCAPLUS ABB=ON L6

=> D L8 BIB ABS IND HITSTR 1-27

L8 ANSWER 1 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

32 structures from queries

27 CA references

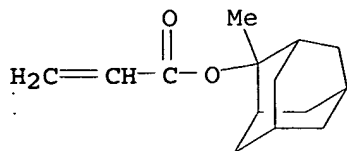
AN 2005:1049200 HCAPLUS
DN 143:356602
TI Positive photoresist composition for immersion exposure and patterning method
IN Kanda, Hiromi; Kanna, Shinichi; Inabe, Haruki
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 61 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005266767	A2	20050929	JP 2004-352658	20041206
PRAI	JP 2004-44708	A	20040220		
AB	Title photoresist composition comprises (A) an alicyclic structure-containing resin component which contains structural repeating units with solubility parameter (SP) above 20 and has increased solubility in alkali developer liquid and (B) an actinic ray- or radiation-sensitive acid generator. A patterning method using the pos. resist is also claimed.				
IC	ICM G03F007-039				
	ICS G03F007-004; H01L021-027				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	pos photoresist compn for immersion exposure and patterning method				
IT	Positive photoresists				
	(pos. photoresist composition for immersion exposure)				
IT	210040-28-1P				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses).				
	(pos. photoresist composition for immersion exposure)				
IT	195000-69-2	258879-87-7	391613-69-7	460754-13-6	460754-19-2
	482609-97-2	577995-45-0	726175-43-5	801304-19-8	848134-81-6
	848408-37-7	848408-38-8	848408-39-9	848408-40-2	848408-42-4
	848413-53-6	863232-77-3	863232-78-4	863232-79-5	
	865723-22-4	865723-24-6	865723-25-7	865723-26-8	865778-20-7
	RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)				
	(pos. photoresist composition for immersion exposure)				
IT	66003-78-9	133710-62-0	138529-81-4	144317-44-2	194999-85-4
	241806-75-7	258872-05-8	284474-28-8	301664-71-1	347193-28-6
	398141-18-9	425670-64-0			
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(pos. photoresist composition for immersion exposure)				
IT	863232-79-5				
	RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)				
	(pos. photoresist composition for immersion exposure)				
RN	863232-79-5 HCAPLUS				
CN	2-Propenoic acid, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 2-methyltricyclo[3.3.1.1 ^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)				

CM 1

CRN 249562-06-9

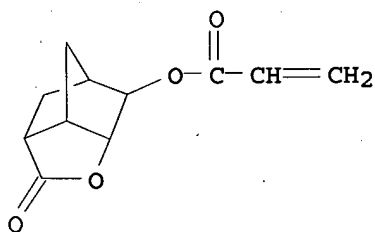
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CRN 242129-35-7

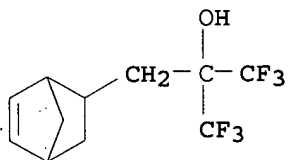
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CM 3

CRN 196314-61-1

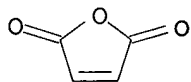
CMF C11 H12 F6 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 2 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:1049198 HCAPLUS

DN 143:356600

TI Positive-working photoresist composition for liquid immersion photolithography

IN Kanda, Hiromi; Kanna, Shinichi; Inabe, Haruki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 58 pp.

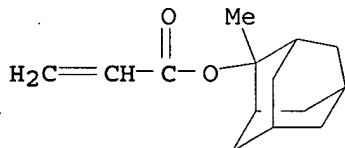
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

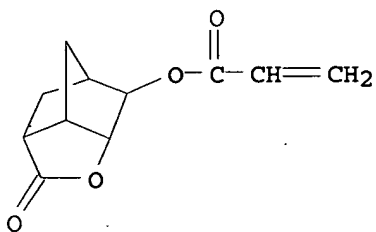
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005266764	A2	20050929	JP 2004-344129	20041129
PRAI	JP 2004-44707	A	20040220		
AB	The title composition contains an acid-sensitive alkali-solubilizable resin and a photoacid generator, wherein the resin has a repeating unit of <20 solubility parameter(SP) and an aliphatic ring structure. Composition provides good profile pattern.				
IC	ICM G03F007-039				
	ICS G03F007-004; H01L021-027				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
	Section cross-reference(s): 37				
ST	pos photoresist compn liq immersion photolithog resin				
IT	Photolithography				
	(liquid immersion; photoresist composition for liquid immersion photolithog.)				
IT	Photoresists				
	(photoresist composition for liquid immersion photolithog.)				
IT	195000-69-2P	210040-28-1P	258879-87-7P	355391-93-4P	460754-13-6P
	460754-19-2P	482609-97-2P	524699-47-6P	577995-45-0P	726175-43-5P
	848134-81-6P	848224-35-1P	848408-37-7P	848408-38-8P	848408-39-9P
	848408-41-3P	848413-53-6P	863232-77-3P	863232-79-5P	
	865723-22-4P	865723-50-8P	865723-51-9P	865723-52-0P	865758-31-2P
	865758-35-6P				
	RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(resin in photoresist composition)				
IT	863232-79-5P				
	RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(resin in photoresist composition)				
RN	863232-79-5 HCAPLUS				
CN	2-Propenoic acid, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 2-methyltricyclo[3.3.1.1 ^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)				
CM	1				
CRN	249562-06-9				
CMF	C14 H20 O2				



CM 2

CRN 242129-35-7

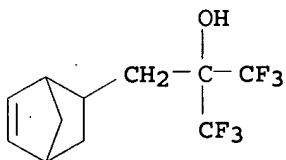
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CRN 196314-61-1

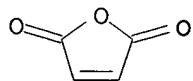
CMF C11 H12 F6 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 3 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:1027984 HCAPLUS

DN 143:336284

TI A positive chemical amplification photoresist composition for immersion lithography

IN Inabe, Haruki; Kanna, Shinichi; Kanda, Hiromi

PA Fuji Photo Film Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 77 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005208419	A1	20050922	US 2005-77012	20050311
	JP 2006079048	A2	20050323	JP 2005-45654	20050222
	EP 1580598	A2	20050928	EP 2005-5530	20050314
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,				

BA, HR, IS, YU

PRAI JP 2004-78857 A 20040318
JP 2004-235259 A 20040812

AB A pos. photoresist composition for immersion exposure comprises a fluorine-containing resin and a photoacid generator. The photoresist shows no deterioration of photosensitivity as compared with a dry exposure and extremely low elution of acid to an immersion liquid

IC ICM G03C001-492

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos chem amplification photoresist immersion lithog

IT Polysiloxanes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(Troy Sol S 366, KP-341; highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT Positive photoresists
(chemical amplified; highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT Fluoropolymers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 120-07-0 484-47-9, 2,4,5-Triphenylimidazole 613-29-6,
N,N-Dibutylaniline 2217-07-4, N,N-Dipropylaniline 24544-04-5,
2,6-Diisopropylaniline
RL: TEM (Technical or engineered material use); USES (Uses)
(basic compound; highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 865271-84-7P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 865271-85-8 865271-86-9 865271-87-0 865271-88-1 865271-89-2
865271-90-5 865271-91-6 865271-92-7 865271-93-8
865271-94-9 865271-95-0 865271-96-1 865271-98-3 865272-01-1
865272-03-3
RL: TEM (Technical or engineered material use); USES (Uses)
(highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 284474-28-8 389859-76-1 425670-64-0 680200-03-7 852572-09-9
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate 108-32-7,
Propylene carbonate 108-94-1, Cyclohexanone, uses 120-92-3,
Cyclopentanone 583-60-8, 2-Methylcyclohexanone 1320-67-8, Propylene glycol monomethyl ether 24556-20-5 29299-43-2, Heptanone 84540-57-8,
Propylene glycol monomethyl ether acetate 169965-90-6, tert-Butyl lithocholate
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 137462-24-9, Megafac F 176 216679-67-3, Megafac R 08 863402-97-5, PF 6520
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactant; highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

IT 865271-92-7

RL: TEM (Technical or engineered material use); USES (Uses)
(highly sensitive pos. chemical amplification photoresist formulations for immersion lithog.)

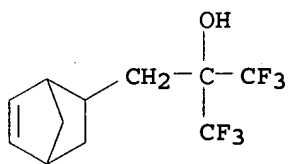
RN 865271-92-7 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-
2-ethanol, 2,5-furandione and 3a,4,7,7a-tetrahydro-4,7-
methanoisobenzofuran-1(3H)-one (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

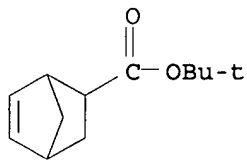
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CRN 154970-45-3

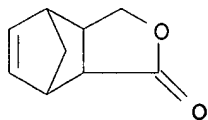
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CM 3

CRN 85718-44-1

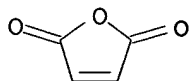
CMF C9 H10 O2



CM 4

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 4 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:960420 HCAPLUS

DN 143:257061

TI Positive photoresists for far-UV liquid-immersion exposure, and their photolithographic patterning method

IN Kanda, Hiromi; Kanna, Shinichi; Inabe, Haruki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 56 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

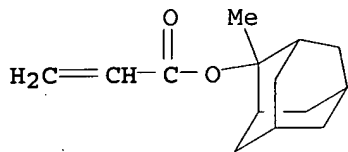
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005234015	A2	20050902	JP 2004-39821	20040217
PRAI	JP 2004-39821		20040217		
AB	The photoresists contain (A) polymers bearing single-cyclic or polycyclic alicyclic hydrocarbon structure and 0.0001-0.005 mequiv OH values, and increasing solubility to alkaline developers upon acid action, and (B) photoacid generators. The photoresists show wide exposure latitude and small dependency on developing time.				
IC	ICM G03F007-039 ICS H01L021-027				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 38				
ST	pos far UV photoresist alicyclic polymer immersion exposure				
IT	Photolithography (far-UV, immersion exposure; pos. photoresists containing alicyclic hydrocarbon polymer fors far-UV liquid-immersion exposure)				
IT	Positive photoresists (far-UV; pos. photoresists containing alicyclic hydrocarbon polymer fors far-UV liquid-immersion exposure)				
IT	210040-28-1	258879-87-7	355391-93-4	428516-13-6	460754-19-2
	524699-47-6	532989-17-6	577995-45-0	848134-81-6	848224-35-1
	848408-37-7	848413-53-6	863232-75-1	863232-76-2	863232-77-3
	863232-78-4	863232-79-5	863232-80-8	863232-81-9	
	863232-82-0				
	RL: TEM (Technical or engineered material use); USES (Uses) (in pos. photoresists containing alicyclic hydrocarbon polymer fors far-UV liquid-immersion exposure)				
IT	66003-78-9	138529-81-4	138529-84-7	144317-44-2	194999-85-4
	241806-75-7	258872-05-8	284474-28-8	301664-71-1	347193-28-6
	398141-18-9	425670-64-0			
	RL: CAT (Catalyst use); TEM (Technical or engineered material use); USES (Uses) (photoacid generators; in pos. photoresists containing alicyclic hydrocarbon polymer fors far-UV liquid-immersion exposure)				
IT	863232-79-5				
	RL: TEM (Technical or engineered material use); USES (Uses) (in pos. photoresists containing alicyclic hydrocarbon polymer fors far-UV liquid-immersion exposure)				
RN	863232-79-5 HCAPLUS				

CN 2-Propenoic acid, hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 249562-06-9

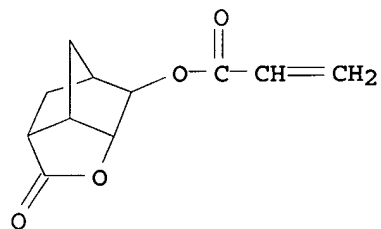
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CM 2

CRN 242129-35-7

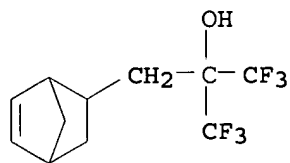
CMF C11 H12 O4



CM 3

CRN 196314-61-1

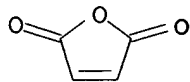
CMF C11 H12 F6 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:609162 HCAPLUS

DN 143:123052

TI Positive resist compositions and pattern formation using them

IN Inabe, Haruki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 55 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005189501	A2	20050714	JP 2003-430595	20031225
PRAI	JP 2003-430595		20031225		
AB	The compns. comprise (A) F-containing polymers, whose solubility for alkali developers is increased by the action of acids and (B) acid-decomposable group-containing compds. generating acids by irradiation of actinic light ray or radiation. Patterns are formed by applying the compns., exposing the resulting films, and developing. The compns. show high sensitivity for 157 nm, high dissoln. contrast, and decreased development defects.				
IC	ICM G03F007-004				
CC	ICS C08F012-22; C08F016-26; C08F032-00; G03F007-039; H01L021-027				
ST	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
IT	pos resist far UV fluoropolymer; acid decomposable compd far UV resist; pattern formation far UV resist fluoropolymer				
IT	Fluoropolymers, preparation				
IT	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
IT	(acrylic; pos. resist compns. with high sensitivity for 157-nm light for pattern formation)				
IT	Positive photoresists				
IT	(far-UV; pos. resist compns. with high sensitivity for 157-nm light for pattern formation)				
IT	66003-76-7, Diphenyliodonium triflate 144317-44-2, Triphenylsulfonium nonaflate				
IT	RL: CAT (Catalyst use); USES (Uses)				
IT	(acid generators; pos. resist compns. with high sensitivity for 157-nm light for pattern formation)				
IT	857285-80-4P	857285-81-5P	857285-83-7P	857285-84-8P	857285-86-0P
IT	857285-87-1P	857285-89-3P			
IT	RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)				
IT	(acid generators; pos. resist compns. with high sensitivity for 157-nm light for pattern formation)				
IT	391232-41-0P	857285-76-8P	857285-77-9P		
IT	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)				
IT	(intermediates in preparation of acid generators; pos. resist compns. with high sensitivity for 157-nm light for pattern formation)				
IT	365568-38-3P	430437-18-6P	607710-65-6P	857285-70-2P	
IT	857285-72-4P	857285-74-6P			

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. resist compns. with high sensitivity for 157-nm light for pattern formation)

IT 107-59-5, tert-Butyl chloroacetate 375-73-5, Nonafluorobutanesulfonic acid 542-88-1, Chloromethyl ether 999-97-3, Hexamethyldisilazane 1538-75-6, 2,2-Dimethylpropanoic anhydride 258342-00-6 444884-99-5 857285-75-7 857285-79-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactants in preparation of acid generators; pos. resist compns. with high sensitivity for 157-nm light for pattern formation)

IT 857285-70-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. resist compns. with high sensitivity for 157-nm light for pattern formation)

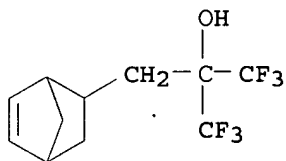
RN 857285-70-2 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

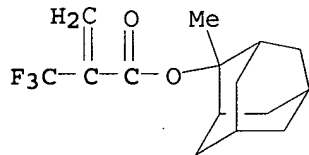
CMF C11 H12 F6 O



CM 2

CRN 188739-86-8

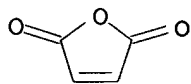
CMF C15 H19 F3 O2



CM 3

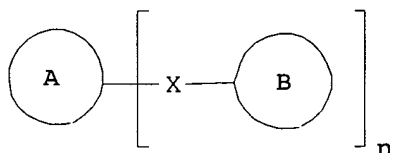
CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2005:235479 HCAPLUS
 DN 142:325910
 TI Positive resist compositions and pattern formation using them for
 manufacture of semiconductor devices
 IN Inabe, Haruki
 PA Fuji Photo Film Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 54 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005070217	A2	20050317	JP 2003-297430	20030821
PRAI	JP 2003-297430		20030821		
GI					



I

AB The compns. comprise (A) alkali-insol. polymers having ≥ 1 repeating units $C(R_1yR_2yR_3y)(CR_4yR_5yR_6y)OY$ ($R_1y-R_6y = H, F, \text{alkyl, cycloalkyl}; \geq 1 \text{ of } R_1y-R_6y = F, F\text{-substituted alkyl or cycloalkyl}; Y = H, \text{organic group}$) showing solubility in alkali developers by the action of acids, (B) acid generators by irradiation of actinic beam or radiation, and (C) aromatic compds. I (A, B = aromatic ring; A and B may be substituted with halo, alkyl, cycloalkyl, OH , CO_2H , or alkoxy; X = single bond, O, S, alkylene, cycloalkylene, alkenylene, arylene; $n \geq 0$). Patterns are formed by forming films of the compns., exposing the films, and developing. The compns. show high sensitivity for F2 excimer laser light, good line-end shortening property, and high post-exposure delay stability.

IC ICM G03F007-039
 ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76

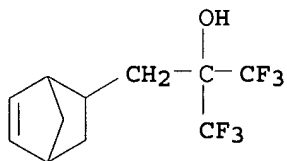
ST pos resist vacuum UV fluoropolymer; vacuum UV resist arom compd additive; post exposure delay stability pos resist; semiconductor manuf vacuum UV resist fluoropolymer

IT Semiconductor device fabrication
 (pos. vacuum-UV resist compns. with high post-exposure delay stability)

for pattern formation)
IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)
IT Positive photoresists
(vacuum-UV; pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)
IT 66003-76-7, Diphenyliodonium triflate 66003-78-9, Triphenylsulfonium triflate 144089-15-6, Triphenylsulfonium perfluorooctanesulfonate 144317-44-2, Triphenylsulfonium nonaflate
RL: CAT (Catalyst use); USES (Uses)
(acid generators; pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)
IT 380886-63-5P 380886-66-8P 380886-81-7P 430437-18-6P 430437-33-5P 847986-69-0P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)
IT 129-00-0, Pyrene, uses 620-92-8 847986-70-3
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)
IT 380886-63-5P 380886-66-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. vacuum-UV resist compns. with high post-exposure delay stability for pattern formation)
RN 380886-63-5 HCAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

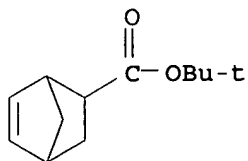
CM 1

CRN 196314-61-1
CMF C11 H12 F6 O



CM 2

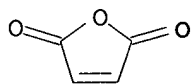
CRN 154970-45-3
CMF C12 H18 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



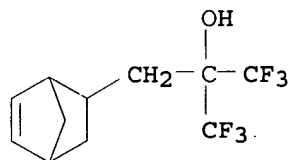
RN 380886-66-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-
2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

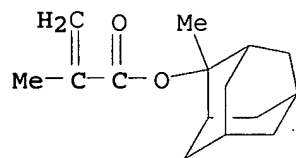
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

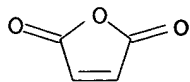
CMF C15 H22 O2



CM 3

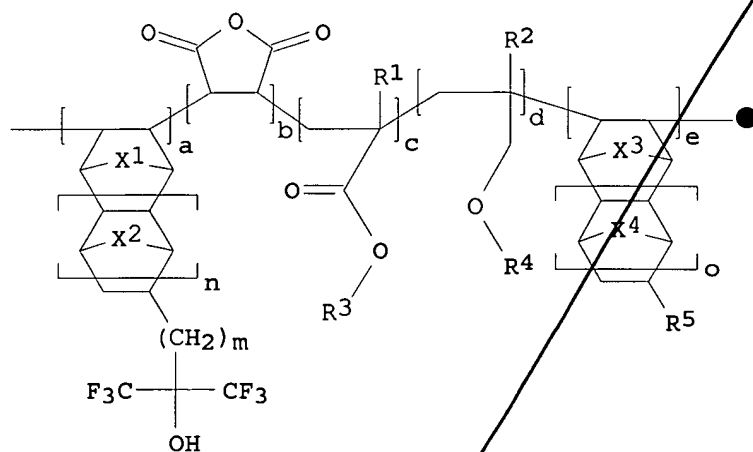
CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2005:98956 HCAPLUS
 DN 142:207614
 TI Photoresist polymer and photoresist composition containing the same
 IN Lee, Geun Su; Bok, Cheol Kyu; Moon, Seung Chan; Shin, Ki Soo; Kim, Jae
 Hyun; Kim, Jung Woo; Lee, Sang Hyang; Kang, Jae Hyun
 PA Hynix Semiconductor Inc., S. Korea; Dongjin Semichem Co., Ltd.
 SO U.S. Pat. Appl. Publ., 17 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005026070	A1	20050203	US 2003-719905	20031121
	US 7022458	B2	20060404		
PRAI	KR 2003-52337	A	20030729		
GI					



I

AB Photoresist polymers and photoresist compns. are disclosed. A photoresist polymer is represented by I (X1-4 = CH₂, CH₂CH₂, S; R_{1,2} = H, CH₃, CF₃; R₃ = C₁₋₂₀ alkyl, etc.; R₄ = C₁₋₂₀ hydroxyalkyl, etc.; R₅ = H, C₁₋₂₀ hydroxyalkyl, etc.; m = 0-2; and n = 0, 1). The photoresist compns. have excellent etching resistance, thermal resistance and adhesive property, and high affinity to an developing solution, thereby improving LER (line edge roughness).

IC ICM G03C001-76

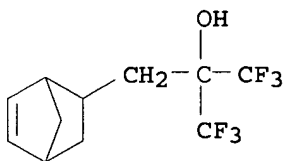
INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
 Reprographic Processes)
 Section cross-reference(s): 35, 38

ST photoresist polymer compn adamantyl acrylic
 IT Photoresists
 (photoresist polymer for photoresist composition)
 IT 836623-58-6P 836623-59-7P 836623-60-0P
 836623-61-1P 836623-63-3P 836623-64-4P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photoresist polymer for photoresist composition)
 IT 836623-58-6P 836623-59-7P 836623-60-0P
 836623-61-1P 836623-63-3P 836623-64-4P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (photoresist polymer for photoresist composition)
 RN 836623-58-6 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with
 α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol,
 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl
 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

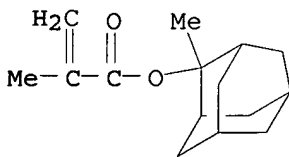
CM 1

CRN 196314-61-1
 CMF C11 H12 F6 O



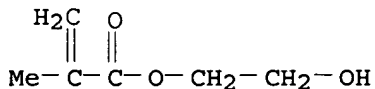
CM 2

CRN 177080-67-0
 CMF C15 H22 O2



CM 3

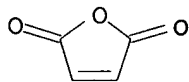
CRN 868-77-9
 CMF C6 H10 O3



CM 4

CRN 108-31-6

CMF C4 H2 O3



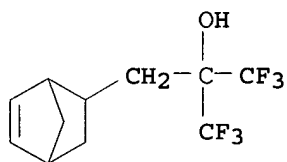
RN 836623-59-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

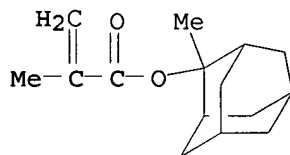
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

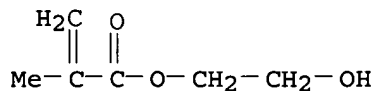
CMF C15 H22 O2



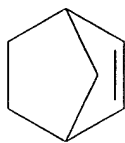
CM 3

CRN 868-77-9

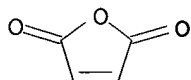
CMF C6 H10 O3



CM 4

CRN 498-66-8
CMF C7 H10

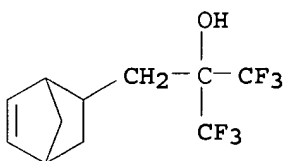
CM 5

CRN 108-31-6
CMF C4 H2 O3

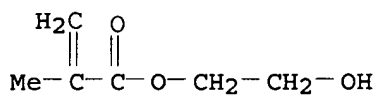
RN 836623-60-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1,1-dimethylethyl ester, polymer with
 α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol,
2,5-furandione and 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX
NAME)

CM 1

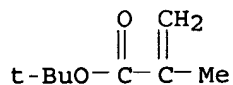
CRN 196314-61-1
CMF C11 H12 F6 O

CM 2

CRN 868-77-9
CMF C6 H10 O3

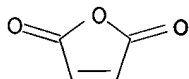
CM 3

CRN 585-07-9
CMF C8 H14 O2



CM 4

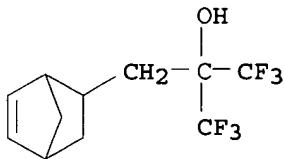
CRN 108-31-6
CMF C4 H2 O3



RN 836623-61-1 HCAPLUS
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 1,1-dimethylethyl 2-methyl-2-propenoate, 2,5-furandione and 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

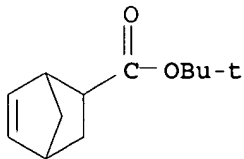
CM 1

CRN 196314-61-1
CMF C11 H12 F6 O



CM 2

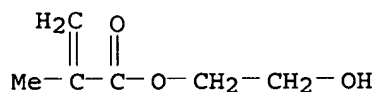
CRN 154970-45-3
CMF C12 H18 O2



CM 3

CRN 868-77-9

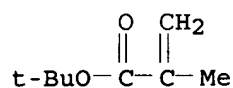
CMF C6 H10 O3



CM 4

CRN 585-07-9

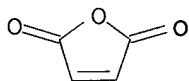
CMF C8 H14 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



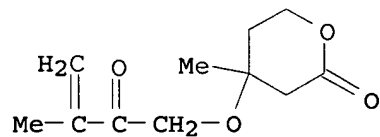
RN 836623-63-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and tetrahydro-4-methyl-4-[(3-methyl-2-oxo-3-butenyl)oxy]-2H-pyran-2-one (9CI)
(CA INDEX NAME)

CM 1

CRN 836623-62-2

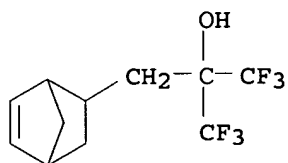
CMF C11 H16 O4



CM 2

CRN 196314-61-1

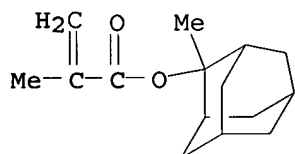
CMF C11 H12 F6 O



CM 3

CRN 177080-67-0

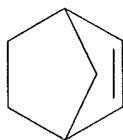
CMF C15 H22 O2



CM 4

CRN 498-66-8

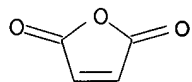
CMF C7 H10



CM 5

CRN 108-31-6

CMF C4 H2 O3



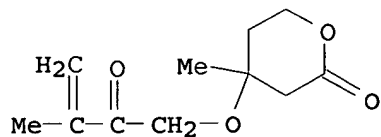
RN 836623-64-4 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate and tetrahydro-4-methyl-4-[(3-methyl-2-oxo-3-butenyl)oxy]-2H-pyran-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 836623-62-2

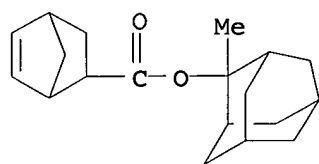
CMF C11 H16 O4



CM 2

CRN 328087-85-0

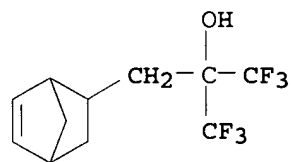
CMF C19 H26 O2



CM 3

CRN 196314-61-1

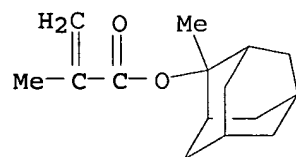
CMF C11 H12 F6 O



CM 4

CRN 177080-67-0

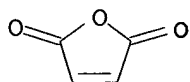
CMF C15 H22 O2



CM 5

CRN 108-31-6

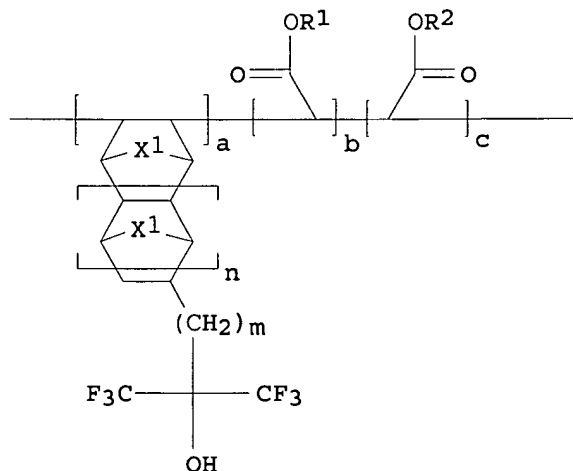
CMF C4 H2 O3



L8 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2005:1976 HCAPLUS
 DN 142:103156
 TI Photoresist polymer and photoresist composition containing the same
 IN Lee, Geun Su
 PA S. Korea
 SO U.S. Pat. Appl. Publ., 9 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

applicant

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004265735	A1	20041230	US 2003-718959	20031121
PRAI	KR 2003-42561	A	20030627		
GI					



I

AB Photoresist polymers and photoresist compns. are disclosed. A photoresist polymer represented by Formula I ($X_{1,2} = CH_2, CH_2CH_2, O, S$; R_1 = acid labile protecting group, C1-20 alkyl, cycloalkyl; R_2 = H, C1-20 alkyl, C5-10 cycloalkyl, etc.; $m = 0-2$; $n = 0,1$; the relative ratio of $a:b:c$ is in range of 50 mol %: 20-50 mol %: 0-30 mol %) and a photoresist composition containing the same have excellent etching resistance, thermal resistance and adhesive property, and high affinity to an developing solution, thereby improving LER (line edge roughness).

IC ICM G03C001-76

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other

Reprographic Processes)

Section cross-reference(s): 35, 38

ST photoresist polymer compn

IT Photoresists

(photoresist polymer for photoresist composition)

IT 702-98-7DP, 2-Methyl-2-adamantanol, reaction product with hydrolyzed Maleic anhydride-norbornene hexafluoro isopropylalc. copolymer and thionylchloride 357397-09-2DP, hydrolyzed and reaction product with thionylchloride then Me adamantanol

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist polymer for photoresist composition)

IT 7719-09-7, Thionyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(photoresist polymer for photoresist composition)

IT 357397-09-2DP, hydrolyzed and reaction product with thionylchloride then Me adamantanol

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist polymer for photoresist composition)

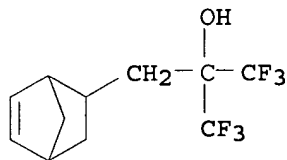
RN 357397-09-2 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

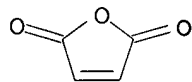
CMF C11 H12 F6 O



CM 2

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:928772 HCAPLUS

DN 141:403469

TI Norbornadienes bearing hexafluorocarinol groups and their hydroxy- or polymerizable group-containing derivatives for fluoropolymers for resists, and pattern formation using the resists

IN Komoritani, Haruhiko; Miyazawa, Satoru; Kawamura, Katsunori; Kobayashi, Satoru; Maeda, Kazuhiko

PA Central Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 27 pp.

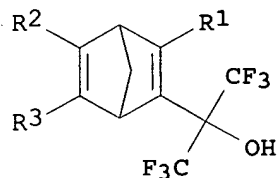
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004307447	A2	20041104	JP 2003-135228	20030514
	US 2004225159	A1	20041111	US 2004-781844	20040220
	US 6858760	B2	20050222		
PRAI	JP 2003-43496	A	20030221		
	JP 2003-135228	A	20030514		
OS	MARPAT 141:403469				
GI					



I

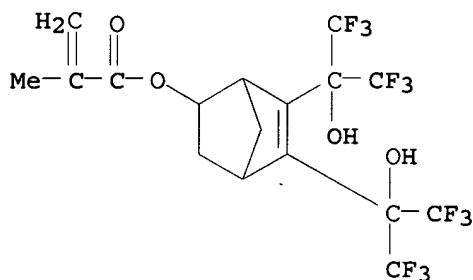
- AB The norbornadienes are I [R1-R3 = H, (fluoro)alkyl, F, C(CF3)2OH; ≥ 1 of C(CF3)2OH may be protected with (F-, O-, N-, or CO-containing) C1-25 (cyclic) hydrocarbyl, (F-, O-, N-, or CO-containing) aromatic hydrocarbyl]. In the hydroxy-containing derivs., ≥ 1 of R1-R3 are OH. In the polymerizable group-containing derivs., ≥ 1 of R1-R3 are R13R12C:CR10R11 [R10-R12 = H, F, C1-25 (cyclic) (fluoro)alkyl; R13 = CH2, C2-20 (cyclic) (fluoro)alkylene, O, S, CO2, dialkylsilylene]. The resists containing the norbornadienes and/or the derivs. show high sensitivity to vacuum-UV regions.
- IC ICM C07C033-44
ICS C07C035-52; C07C043-196; C07C069-533; C07C069-54; C08F032-02; C08G061-08; G03F007-039
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 24, 35, 38
- ST hexafluorocarinol norbornadienepolymer vacuum UV resist
- IT Photoresists
(UV, vacuum-UV; manufacture of norbornadienes bearing hexafluorocarinol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)
- IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; manufacture of norbornadienes bearing hexafluorocarinol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)
- IT 646-72-0P 647-01-8P 557771-70-7P 787553-29-1P 787553-30-4P
787553-31-5P 787553-32-6P 787571-57-7P 787571-58-8P 787571-59-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of norbornadienes bearing hexafluorocarinol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)

- IT 107-30-2DP, Methoxymethyl chloride, reaction product with hexafluorohydroxyisopropylbicycloheptadienyl methacrylate homopolymer 787553-33-7DP, reaction product with methoxymethyl chloride 787553-33-7P 787553-34-8P 787571-60-2P 787571-61-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of norbornadienes bearing hexafluorocarbonol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)
- IT 77-73-6, Dicyclopentadiene 109-92-2, Ethyl vinyl ether 684-16-2, Hexafluoroacetone 920-46-7, Methacryloyl chloride 90715-73-4, α -Trifluoromethylacryloyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of norbornadienes bearing hexafluorocarbonol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)
- IT 787553-34-8P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of norbornadienes bearing hexafluorocarbonol groups and their hydroxy- or polymerizable group-containing derivs. for fluoropolymers for vacuum-UV resists)
- RN 787553-34-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 5,6-bis[2,2,2-trifluoro-1-hydroxy-1-(trifluoromethyl)ethyl]bicyclo[2.2.1]hept-5-en-2-yl ester, polymer with 2,5-furandione and 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 787553-31-5

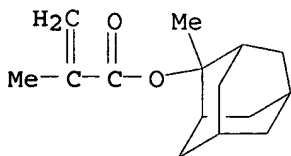
CMF C17 H14 F12 O4



CM 2

CRN 177080-67-0

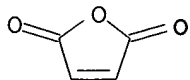
CMF C15 H22 O2



CM 3

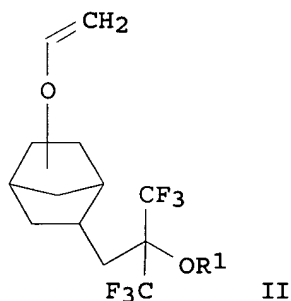
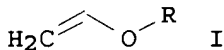
CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2004:412905 HCAPLUS
 DN 140:424105
 TI Fluorine-containing vinyl ethers, their polymers, and resist compositions
 using such polymers
 IN Kobayashi, Satoru; Maeda, Kazuhiko; Tsujishita, Tooru
 PA Central Glass Company, Limited, Japan
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004041762	A1	<u>20040521</u>	WO 2003-JP13924	20031030
	W: KR, US				
	JP 2004155680	A2	<u>20040603</u>	JP 2002-320871	20021105
	JP 2004231815	A2	<u>20040819</u>	JP 2003-22925	20030131
PRAI	JP 2002-320871	A	<u>20021105</u>		
	JP 2003-22925	A	<u>20030131</u>		
OS	MARPAT 140:424105				
GI					



AB The invention relates to a fluorine-containing vinyl ether represented by the formula (I), wherein R = an organic group containing at least one fluorine atom and a cyclic structure. The invention further relates to a fluorine-containing copolymer containing (a) a first unit derived from a first monomer that is a fluorine-containing vinyl ether represented by the formula (II) where R1 = H or C1-8 alkyl group that optionally contains an oxygen atom; and (b) a second unit derived from a second monomer that is at least one selected from acrylic esters and methacrylic esters.

IC ICM C07C043-192
ICS C07C043-196; C07C043-225; C07C043-23; C07C043-172; C08F016-12;
G03F007-039

CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76

ST norbornene vinyl ether fluorine fluoropolymer pos resist film

IT Plastic films
(fluorine-containing vinyl ethers, their polymers, and resist compns. using
such polymers)

IT Resists
(pos.-working; fluorine-containing vinyl ethers, their polymers, and resist
compns. using such polymers)

IT 3375-31-3 37275-48-2, Dipyrityl
RL: CAT (Catalyst use); USES (Uses)
(fluorine-containing vinyl ethers, their polymers, and resist compns. using
such polymers)

IT 634200-99-0P 691870-38-9P 691870-39-0P 691870-40-3P 691870-41-4P
691870-42-5P 691870-43-6P 691870-44-7P 691870-45-8P
691870-46-9P 691870-47-0P
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluorine-containing vinyl ethers, their polymers, and resist compns. using
such polymers)

IT 109-92-2, Ethyl vinyl ether 926-02-3, tert-Butyl vinyl ether
399518-71-9 669768-29-0 691410-51-2 691870-37-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorine-containing vinyl ethers, their polymers, and resist compns. using
such polymers)

IT 634200-89-8P 691410-52-3P 691410-53-4P 691870-36-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(monomer; fluorine-containing vinyl ethers, their polymers, and resist
compns. using such polymers)

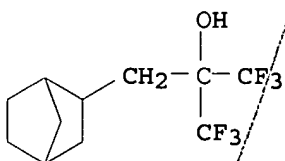
IT **691870-46-9P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(fluorine-containing vinyl ethers, their polymers, and resist compns. using
such polymers)

RN 691870-46-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
polymer with 5(or 6)-(ethenyloxy)- α,α -
bis(trifluoromethyl)bicyclo[2.2.1]heptane-2-ethanol and 2,5-furandione
(9CI) (CA INDEX NAME)

CM 1

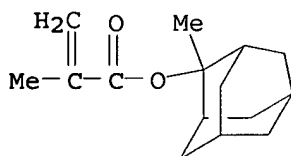
CRN 634200-89-8
CMF C13 H16 F6 O2
CCI IDS



CM 2

CRN 177080-67-0

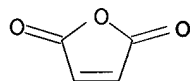
CMF C15 H22 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:272035 HCAPLUS

DN 140:312008

TI Positive-working resist composition with improved precision in response to light

IN Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 75 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004102019	A2	20040402	JP 2002-265400	20020911
PRAI	JP 2002-265400		20020911		

AB Title resist composition comprises (A) a compound generating acid upon actinic ray irradiation, (B) a fluorine-containing polymer which decomp. and has increased solubility in alkaline developing liquid in the presence of an acid, and (C) at least one nitrogen-containing ionic basic compound

ICM G03F007-039

ICS G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST pos resist precision response fluoropolymer

IT Positive photoresists

(pos.-working resist composition with improved precision in response to light)

IT Fluoropolymers, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working resist composition with improved precision in response to light)

IT 109-92-2DP, Ethyl vinyl ether, reaction products with hydroxy-containing polymers 103983-46-6DP, reaction products with hydroxy-containing polymers
 262617-13-0P 370866-15-2P 430436-66-1P 430436-68-3P 430436-78-5P
 430436-81-0P 430436-90-1P 430436-91-2P 430436-97-8P 430436-98-9P
430437-11-9P 430437-12-0P 430437-14-2P 430437-17-5P
 430437-22-2P 430437-27-7P 430437-33-5P 430437-35-7P 430437-40-4P
 431062-16-7P 431062-17-8P 431062-18-9P 431062-20-3P 462109-80-4DP,
 reaction products 524952-70-3P 524952-73-6P 524952-74-7P
 540729-51-9P 676488-04-3P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working resist composition with improved precision in response to light)

IT 75-59-2, Tetramethylammonium hydroxide 102-82-9, Tributylamine
 102-87-4, Tridodecylamine 120-07-0 556-81-0 1116-76-3, Trioctylamine
 1122-58-3, 4-Dimethylaminopyridine 2052-49-5, Tetrabutylammonium
 hydroxide 2403-88-5, 2,2,6,6-Tetramethyl-4-hydroxypiperidine
 3001-72-7, {1,5-Diazabicyclo[4.3.0]-5-nonene} 4107-98-6,
 N,N-Diisopropylaniline 6674-22-2, {1,8-Diazabicyclo[5.4.0]-7-undecene}
 17756-56-8, Tetrahexylammonium hydroxide 36631-19-3, Triphenylimidazole
 133710-62-0 138529-84-7 160481-39-0 209482-18-8 241806-75-7
 258872-05-8 284474-28-8 300374-81-6 301664-71-1 389859-76-1
 391232-40-9 398141-23-6 462653-49-2 470482-89-4 474510-73-1
 506445-12-1 524959-18-0

RL: TEM (Technical or engineered material use); USES (Uses)

(pos.-working resist composition with improved precision in response to light)

IT **430437-11-9P**

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos.-working resist composition with improved precision in response to light)

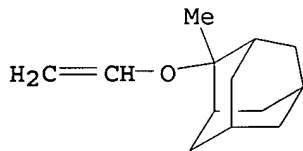
RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 430437-10-8

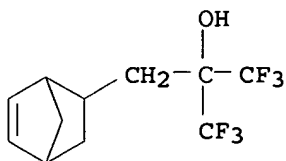
CMF C13 H20 O



CM 2

CRN 196314-61-1

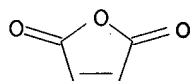
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:754897 HCAPLUS

DN 139:252537

TI Positive resist composition

IN Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 89 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1347335	A1	20030924	EP 2003-6122	20030318
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2003270791	A2	20030925	JP 2002-74565	20020318
	US 2003224287	A1	20031204	US 2003-388408	20030317
PRAI	JP 2002-74565	A	20020318		
AB	A pos. photoresist composition used in fabrication of semiconductor devices comprises: (A) a compound capable of generating an acid on exposure to active light rays or a radiation; (B) a resin which is insol. or sparingly soluble in an alkali and becomes alkali-soluble by an action of an acid; and (C) an acyclic compound having at least three groups selected from a hydroxyl group and a substituted hydroxyl group.				
IC	ICM G03F007-039				
	ICS G03F007-004				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
	Section cross-reference(s): 35, 38				
ST	pos photoresist compn				
IT	Photoresists				
	(pos. resist composition)				
IT	Polysiloxanes, uses				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(surface active agent; pos. photoresist composition containing)				
IT	102-82-9, Tributylamine	102-87-4, Tridodecylamine	120-07-0	484-47-9	
	1116-76-3, Trioctylamine	1122-58-3, 4-Dimethylaminopyridine	2403-88-5,		
	2,2,6,6-Tetramethyl-4-hydroxypiperidine	3001-72-7, {1,5-			

Diazabicyclo[4.3.0]-5-nonene} 6674-22-2, {1,8-Diazabicyclo[5.4.0]-7-undecene} 153921-59-6, Diisopropylaniline

RL: TEM (Technical or engineered material use); USES (Uses)

(basic compound; pos. photoresist composition containing)

IT 109-92-2DP, Ethyl vinyl ether, reaction product with polyhydroxystyrene
 24979-70-2DP, VP15000, reaction product with alkyl vinyl ether
 159296-87-4P 200808-68-0P 250378-10-0P, Butyrolactone
 methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 262617-13-0P
 288303-55-9P 325143-38-2P 364736-22-1P 391232-36-3P 398140-43-7P
 398140-45-9P 398140-47-1P 398140-50-6P 398140-52-8P 398140-55-1P
 398140-57-3P 398140-59-5P 398140-64-2P 398140-69-7P 398140-73-3P
 398140-77-7P 398140-78-8P 398140-79-9P 398140-81-3P 398140-88-0P,
 tert-Butyl norbornenecarboxylate-maleic anhydride-2-methyl-2-adamantyl
 acrylate-norbornene lactone acrylate copolymer 398140-89-1P
 398140-94-8P 398141-00-9P 398141-11-2P 398141-13-4P 398141-14-5P
 405509-18-4P 430436-66-1P 430436-67-2P 430436-68-3P 430436-70-7P
 430436-72-9P 430436-74-1P 430436-76-3P 430436-78-5P 430436-79-6P
 430436-81-0P 430436-82-1P 430436-84-3P 430436-85-4P 430436-86-5P
 430436-87-6P 430436-89-8P 430436-90-1P 430436-91-2P 430436-92-3P
 430436-94-5P 430436-95-6P 430436-97-8P 430436-98-9P 430436-99-0P
 430437-01-7P 430437-03-9P 430437-04-0P 430437-05-1P 430437-09-5P
430437-11-9P 430437-12-0P 430437-13-1P 430437-14-2P
 430437-15-3P 430437-17-5P 430437-18-6P 430437-19-7P 430437-21-1P
 430437-24-4P 431062-12-3P 431062-14-5P 431062-16-7P 431062-17-8P
 431062-18-9P 431062-20-3P 431062-22-5P 462109-80-4P 471257-28-0P
 503003-64-3P 597553-03-2P 597553-04-3P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresist composition containing)

IT 50-70-4, Sorbitol, uses 69-65-8, Mannitol 7493-90-5, Threitol
 52894-25-4, 1,2,7,8-Octanetetrol 597553-05-4 597553-06-5

RL: TEM (Technical or engineered material use); USES (Uses)

(pos. photoresist composition containing)

IT 137462-24-9, Megafac F176 216679-67-3, Megafac R08

RL: TEM (Technical or engineered material use); USES (Uses)

(surface active agent; pos. photoresist composition containing)

IT **430437-11-9P**

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresist composition containing)

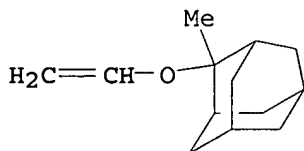
RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

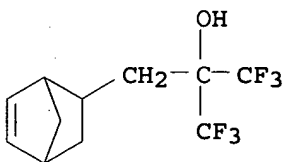
CM 1

CRN 430437-10-8

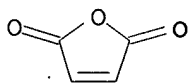
CMF C13 H20 O



CM 2

CRN 196314-61-1
CMF C11 H12 F6 O

CM 3

CRN 108-31-6
CMF C4 H2 O3RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:738010 HCAPLUS
DN 139:252521
TI Negative photoresists for short wavelength imaging
IN Barclay, George G.; Pugliano, Nicholas
PA Shipley Company, LLC, USA
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003077029	A1	20030918	WO 2003-US6532	20030304
	WO 2003077029	C2	20031224		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2003217892	A1	20030922	AU 2003-217892	20030304
	US 2003235785	A1	20031225	US 2003-382090	20030304
	EP 1481282	A1	20041201	EP 2003-713864	20030304
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
	JP 2005519345	T2	20050630	JP 2003-575183	20030304

CN 1639634 A 20050713 CN 2003-805088 20030304
PRAI US 2002-361547P P 20020304
WO 2003-US6532 W 20030304

AB New neg.-acting photoresist compns. are provided that are particularly useful for imaging at short wavelengths, particularly sub-200 nm wavelengths such as 193 nm. Resists of the invention provide contrast between exposed and unexposed coating process layer regions through crosslinking or other solubility switching mechanism. Preferred resists of the invention include a resin component that contains repeat units that facilitate aqueous base solubility

IC ICM G03C005-00
ICS G03F007-004

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST neg photoresist imaging

IT Light-sensitive materials
Negative photoresists
(neg. photoresists for short wavelength imaging)

IT 600155-34-8P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(hydrolytic; neg. photoresists for short wavelength imaging)

IT 600155-32-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(neg. photoresists for short wavelength imaging)

IT 66003-78-9, Triphenylsulfonium triflate 600154-27-6
RL: TEM (Technical or engineered material use); USES (Uses)
(neg. photoresists for short wavelength imaging)

IT 133710-62-0
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; neg. photoresists for short wavelength imaging)

IT 600154-26-5P, 1,1,1,3,3,3-Hexafluoropropan-2-ol-norbornen-maleic anhydride copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; neg. photoresists for short wavelength imaging)

IT 600155-32-6P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(neg. photoresists for short wavelength imaging)

RN 600155-32-6 HCAPLUS

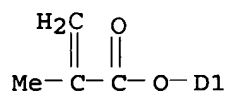
CN 2-Propenoic acid, 2-methyl-, hydroxytricyclo[3.3.1.1^{3,7}]decyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-methanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 600155-31-5
CMF C14 H20 O3
CCI IDS

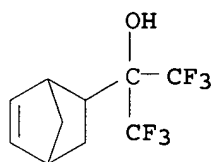


D1-OH



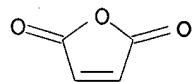
CM 2

CRN 369375-16-6
CMF C10 H10 F6 O



CM 3

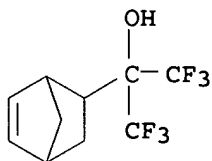
CRN 108-31-6
CMF C4 H2 O3



IT **600154-26-5P**, 1,1,1,3,3,3-Hexafluoropropan-2-ol-norbornen-maleic anhydride copolymer
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (resin; neg. photoresists for short wavelength imaging)
 RN 600154-26-5 HCAPLUS
 CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-methanol (9CI) (CA INDEX NAME)

CM 1

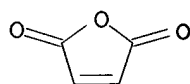
CRN 369375-16-6
CMF C10 H10 F6 O



CM 2

CRN 108-31-6

CMF C4 H2 O3



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:735196 HCAPLUS

DN 139:267983

TI Positive-working photoresist composition containing polymer with fluoro-aliphatic group

IN Fujimori, Toru

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 88 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003262952	A2	20030919	JP 2002-65444	20020311
PRAI	JP 2002-65444		20020311		

AB The composition contains (A) a compound generating an acid by irradiation of actinic ray, (B) a resin which decomps. by the action of an acid and whose solubility in alkaline developer increases, and (C) a polymer with fluoro-aliphatic group formed from a monomer $\text{CH}_2:\text{CR}_1\text{COX}(\text{CH}_2)_m(\text{CF}_2\text{CF}_2)_n\text{F}$ ($\text{R}_1 = \text{H, Me}$; $\text{X} = \text{O, S}$, NR_2 ; $m = 1-6$; $n = 2-4$; $\text{R}_2 = \text{H, C1-4 alkyl}$). Developing defect is prevented and the composition is useful for manufacture of integrated circuits, semiconductor device, and wiring substrates.

IC ICM G03F007-004

ICS C08F020-22; C08F020-38; C08F020-54; C08F020-68; C08F020-70;
G03F007-033; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST pos photoresist acrylic polymer fluoroaliph group

IT Surfactants

(fluorosurfactants; pos. photoresist composition containing polymer with fluoro-aliphatic group)

IT Positive photoresists

(pos. photoresist composition containing polymer with fluoro-aliphatic group)

IT Integrated circuits

(pos. photoresist composition containing polymer with fluoro-aliphatic group for manufacture of integrated circuits)

IT Semiconductor device fabrication
(pos. photoresist composition containing polymer with fluoro-aliphatic group for semiconductor device fabrication)

IT 66003-78-9 133710-62-0 138529-84-7 160481-39-0 205682-99-1
241806-75-7 258872-05-8 284474-28-8 300374-81-6 301664-71-1
389859-76-1 391232-40-9 398141-18-9 462653-49-2
RL: TEM (Technical or engineered material use); USES (Uses)
(acid generator; pos. photoresist composition containing polymer with fluoro-aliphatic group)

IT 250378-10-0P, Butyrolactone methacrylate-2-ethyl-2-adamantyl methacrylate copolymer 262617-13-0P 328061-11-6P 350992-58-4P 351197-82-5P
359635-35-1P 364736-22-1P 367283-78-1P 391232-36-3P 398140-38-0P
398140-43-7P 398140-45-9P 398140-57-3P 398140-64-2P 398140-69-7P
398140-79-9P 398140-86-8P 398140-87-9P 398140-88-0P 398140-89-1P
398141-00-9P 398141-11-2P 398141-14-5P 430436-66-1P 430436-67-2P
430436-68-3P 430436-70-7P 430436-72-9P 430436-74-1P 430436-76-3P
430436-78-5P 430436-79-6P 430436-81-0P 430436-82-1P 430436-84-3P
430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P 430436-90-1P
430436-91-2P 430436-92-3P 430436-94-5P 430436-95-6P 430436-97-8P
430436-98-9P 430436-99-0P 430437-01-7P 430437-03-9P 430437-04-0P
430437-05-1P 430437-07-3P 430437-09-5P 430437-11-9P
430437-12-0P 430437-13-1P 430437-14-2P 430437-15-3P 430437-17-5P
430437-18-6P 430437-19-7P 430437-21-1P 430437-22-2P 430437-24-4P
431062-12-3P 431062-14-5P 431062-16-7P 431062-17-8P 431062-18-9P
431062-20-3P 431062-22-5P 482609-97-2P 503003-64-3P 524699-47-6P
532989-17-6P 601490-00-0P 601490-01-1P 601490-02-2P 601490-03-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photoresist composition containing polymer with fluoro-aliphatic group)

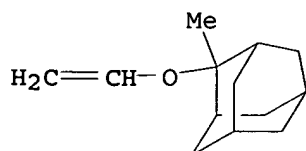
IT 601490-04-4 601490-06-6 601490-07-7 601490-09-9 601490-10-2
601490-11-3 601490-12-4 601490-13-5 601490-14-6 601491-23-0
602299-24-1 602299-25-2 602299-26-3 602299-27-4 602299-28-5
602299-29-6 602299-30-9 602299-31-0 602299-32-1 602299-33-2
602299-34-3 602299-35-4
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(surfactant; pos. photoresist composition containing polymer with fluoro-aliphatic group)

IT 430437-11-9P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(pos. photoresist composition containing polymer with fluoro-aliphatic group)

RN 430437-11-9 HCAPLUS
CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

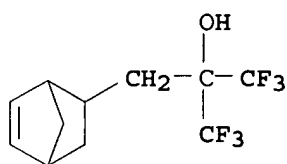
CM 1

CRN 430437-10-8
CMF C13 H20 O



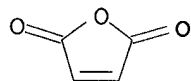
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3



L8 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:369197 HCAPLUS

DN 138:393073

TI Positive-working photoresist composition containing fluoro-substituted
nitrogen compound

IN Fujimori, Toru; Kanna, Shinichi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 53 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003140349	A2	20030514	JP 2001-339439	20011105
PRAI	JP 2001-339439		20011105		

AB The composition contains (A) a polymer with F-substituted main chain or side chain and becomes soluble in alkaline developer by the decomposition caused by an acid, (B) a compound generating acid by actinic ray or radiation, and (C) a nitrogen compound containing ≥ 1 F atom. The composition gives clear pattern without development defect.

IC ICM G03F007-039

ICS C08F012-22; C08F014-26; C08F014-28; C08F016-26; C08F016-38;

C08F020-22; C08F020-28; C08F020-44; C08F032-04; G03F007-004;
H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other
Reprographic Processes)

Section cross-reference(s): 38

ST pos photoresist fluorine nitrogen compd; alkali soluble polymer fluorine

IT Positive photoresists

(pos. photoresist containing F-containing alkali-soluble polymer, acid generator,
and F-containing nitrogen compound)

IT 88-17-5 98-16-8 311-89-7 328-74-5 359-70-6 367-71-5 393-39-5

432-03-1 432-08-6 455-14-1 700-16-3 700-17-4 771-60-8

1513-65-1 2875-18-5 3048-01-9 3244-44-8 3796-24-5

RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)

(pos. photoresist containing F-containing alkali-soluble polymer, acid generator,
and F-containing nitrogen compound)

IT 143643-34-9P 262617-13-0P 370866-13-0P 370866-15-2P 397302-29-3P

430436-67-2P 430436-68-3P 430436-70-7P 430436-72-9P 430436-74-1P

430436-76-3P 430436-78-5P 430436-79-6P 430436-81-0P 430436-82-1P

430436-84-3P 430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P

430436-90-1P 430436-92-3P 430436-94-5P 430436-98-9P 430436-99-0P

430437-01-7P 430437-03-9P 430437-04-0P 430437-05-1P 430437-09-5P

430437-11-9P 430437-12-0P 430437-13-1P 430437-17-5P

430437-18-6P 430437-19-7P 430437-21-1P 430437-22-2P 430437-24-4P

430437-27-7P 430437-29-9P 430437-33-5P 430437-36-8P 430437-37-9P

430437-39-1P 430437-40-4P 431062-12-3P 431062-14-5P 431062-16-7P

431062-17-8P 431062-18-9P 431062-20-3P 431062-22-5P 487048-93-1P

524952-65-6P 524952-66-7P 524952-68-9P 524952-69-0P 524952-70-3P

524952-71-4P 524952-72-5P 524952-73-6P 524952-74-7P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos. photoresist containing F-containing alkali-soluble polymer, acid generator,
and F-containing nitrogen compound)

IT **430437-11-9P**

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)

(pos. photoresist containing F-containing alkali-soluble polymer, acid generator,
and F-containing nitrogen compound)

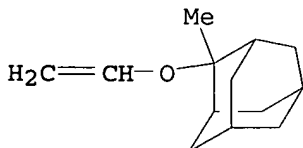
RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2
.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-
methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

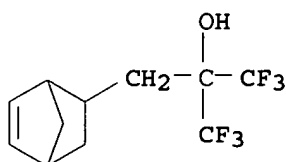
CRN 430437-10-8

CMF C13 H20 O



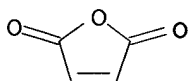
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



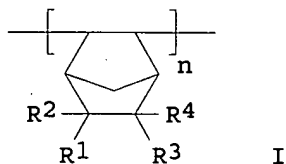
CM 3

CRN 108-31-6
CMF C4 H2 O3



L8 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:366812 HCAPLUS
DN 138:369658
TI Fluorine-containing norbornene polymers and their uses for antireflective films, photosensitive coatings, and resists
IN Koga, Tadashi; Maeda, Kazuhiko
PA Central Glass Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003137940	A2	20030514	JP 2001-339982	20011105
PRAI	JP 2001-339982		20011105		
GI					



AB The polymers comprise norbornene repeating units I (R1-R4 = H, halo, C1-20 alkyl, CO2H, OH, cyano, etc.; ≥1 of R1-R4 = F-containing group) and repeating units CR5R6R7 (R5, R6 = alkyl, fluoroalkyl; R5 and/or R6 = fluoroalkyl; R7 = O, CH2). Thus, 39.70 g 3-(5-bicyclo[2.2.1]hepten-2-yl)-1,1,1-trifluoro-2-trifluoromethyl-2-propanol was polymerized with 10.30 g

(F3C)2CO to give copolymer, which was made into a film showing 650-nm light reflectance 0.98% and good weather resistance.

IC ICM C08F232-08
ICS C09D127-12; C09D145-00

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 38, 74

ST fluoro norbornene polymer antireflective film resist; photosensitive coating fluoro norbornene polymer; fluoroacetone fluoronorbornene copolymer antireflective film

IT Polyethers, preparation
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorine-containing; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT Coating materials
(light-sensitive; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT Antireflective films
Photoresists
(manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyether-; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 521947-47-7P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(comonomer; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 105935-24-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate for monomer; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 521949-34-8P 521949-35-9P 521949-36-0P 521949-37-1P 521949-38-2P 521949-39-3P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 196314-61-1P 365568-55-4P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 110-63-4, Butylene glycol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for comonomer; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 77-73-6, Dicyclopentadiene 115-11-7, Isobutene, reactions 381-98-6, 2-Trifluoromethylacrylic acid 542-92-7, Cyclopentadiene, reactions 646-97-9, 1,1,1-Trifluoro-2-(trifluoromethyl)pent-4-en-2-ol
RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant for monomer; manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

IT 521949-39-3P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of F-containing norbornene polymers for antireflective films, photosensitive coatings, and resists)

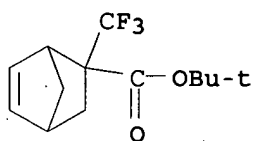
RN 521949-39-3 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 3,3,3-trifluoro-2-(trifluoromethyl)-1-propene (9CI) (CA INDEX NAME)

CM 1

CRN 365568-55-4

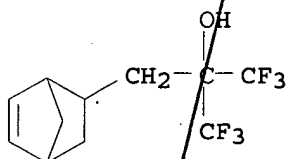
CMF C13 H17 F3 O2



CM 2

CRN 196314-61-1

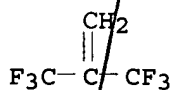
CMF C11 H12 F6 O



CM 3

CRN 382-10-5

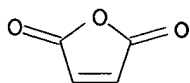
CMF C4 H2 F6



CM 4

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:334607 HCAPLUS

DN 138:346488

TI Pattern formation method

IN Endo, Masayuki; Sasago, Masaru

PA Matsushita Electric Industrial Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003082926	A1	20030501	US 2002-279070	20021024
	US 6841488	B2	20050111		
	JP 2003140360	A2	20030514	JP 2001-334168	20011031
PRAI	JP 2001-334168	A	20011031		

AB A resist film is formed from a chemical amplified resist material including a base polymer having a protecting group released by a function of an acid, an acrylic compound and an acid generator that generates an acid when irradiated with light. The resist film is selectively irradiated with exposing light for pattern exposure, and is developed after the pattern exposure so as to form a resist pattern having a hole or groove opening. The size of the opening is reduced by irradiating the resist pattern with light with annealing.

IC ICM H01L021-311

ICS H01L021-302; H01L021-461; H01L021-31; H01L021-469

INCL 438780000; 430005000; 438725000; 438710000; 438708000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST chem amplified photoresist photolithog pattern formation

IT Photolithography

Photoresists

(pattern formation method)

IT 153723-75-2, tert-Butoxystyrene-hydroxystyrene copolymer 154444-26-5,

tert-Butoxycarbonyloxystyrene-hydroxystyrene copolymer 170283-35-9

177080-68-1, 2-Methyl-2-adamantyl methacrylate-mevalonic lactone

methacrylate copolymer 186676-37-9 188778-57-6, tert-

Butoxycarbonylmethyloxystyrene-hydroxystyrene copolymer 195000-67-0

195154-78-0 195154-83-7 250378-10-0 518027-82-2 518027-83-3

518027-84-4 518027-85-5 518027-86-6 518027-87-7 518027-88-8

518027-89-9 518027-90-2 518027-91-3 518027-92-4

518027-93-5 518047-92-2 518047-95-5

RL: TEM (Technical or engineered material use); USES (Uses)

(pattern formation method containing)

IT 518027-89-9

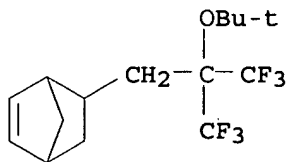
RL: TEM (Technical or engineered material use); USES (Uses)

(pattern formation method containing)

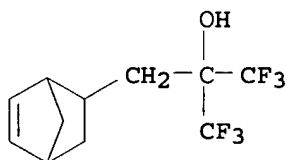
RN 518027-89-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 5-[2-(1,1-dimethylethoxy)-3,3,3-trifluoro-2-(trifluoromethyl)propyl]bicyclo[2.2.1]hept-2-ene (9CI) (CA INDEX NAME)

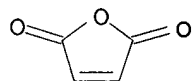
CM 1

CRN 430436-83-2
CMF C15 H20 F6 O

CM 2

CRN 196314-61-1
CMF C11 H12 F6 O

CM 3

CRN 108-31-6
CMF C4 H2 O3RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:282017 HCAPLUS
DN 138:311568
TI Chemical amplification type positive resist composition
IN Takata, Yoshiyuki; Fujishima, Hiroaki; Uetani, Yasunori
PA Japan
SO U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003068573	A1	20030410	US 2002-207997	20020731
	TW 573229	B	20040121	TW 2002-91117263	20020730
	JP 2003114523	A2	20030418	JP 2002-224526	20020801

PRAI JP 2001-234649 A 20010802
OS MARPAT 138:311568
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A chemical amplification type pos. photoresist composition is provided which gives resist patterns showing remarkably improved line edge roughness. A chemical amplification type pos. photoresist composition comprises an acid generator containing a benzenesulfonate ion of I (Q1-5 = H, hydroxyl group, perfluoroalkyl group, alkyl group, alkoxy group, halogen); and a resin having a polymerization unit carrying a group unstable to an acid and polymerization unit of an alicyclic lactone of formula II, III (R1-4 = H, Me group; n = 1-3).

IC ICM G03F007-004

INCL 430270100; 430914000; 430921000; 430910000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38

ST chem amplification pos photoresist compn

IT Positive photoresists
(chemical amplification type pos. resist composition)

IT 509097-29-4P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acid generation for chemical amplification type pos. resist composition)

IT 197447-16-8 247150-86-3 335199-99-0, Triphenylsulfonium 2,4-difluorobenzenesulfonate 509097-30-7 509097-32-9
RL: TEM (Technical or engineered material use); USES (Uses)
(acid generation for chemical amplification type pos. resist composition)

IT 407-25-0, Trifluoroacetic anhydride 945-51-7, Diphenyl sulfoxide 1493-13-6, Trifluoromethanesulfonic acid 27176-87-0, Dodecylbenzenesulfonic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of acid generation for chemical amplification type pos. resist composition)

IT 3744-09-0P 29299-40-9P, Silver dodecylbenzenesulfonate 81416-37-7P, 4-Methylphenyldiphenylsulfonium trifluoromethanesulfonate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of acid generation for chemical amplification type pos. resist composition)

IT 509097-33-0P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; acid generation for chemical amplification type pos. resist composition)

IT 340964-31-0P 364736-22-1P 364736-29-8P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; chemical amplification type pos. resist composition containing)

IT 509097-33-0P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(resin; acid generation for chemical amplification type pos. resist composition)

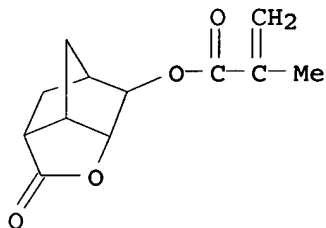
RN 509097-33-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 254900-07-7

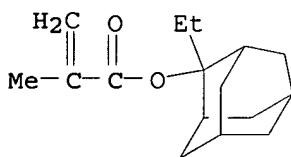
CMF C12 H14 O4



CM 2

CRN 209982-56-9

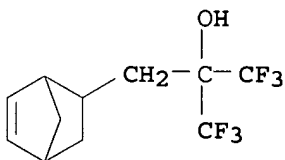
CMF C16 H24 O2



CM 3

CRN 196314-61-1

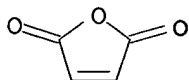
CMF C11 H12 F6 O



CM 4

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:241052 HCAPLUS

DN 138:262693

TI Positive photoresist composition

IN Fujimori, Toru; Kawabe, Yasumasa

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 101 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1296190	A1	20030326	EP 2002-21204	20020918
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	JP 2003167333	A2	20030613	JP 2002-563	20020107
	US 2003134225	A1	20030717	US 2002-244070	20020916
PRAI	JP 2001-285180	A	20010919		
	JP 2002-563	A	20020107		
AB	A pos. resist composition comprises the components of: (A) a compound capable of generating an acid upon irradiation with one of an actinic ray and a radiation; (B) a resin that is insol. or slightly soluble in alkalis, but becomes alkali-soluble under an action of an acid; (C) a basic compound; and (D) a compound comprising at least three hydroxyl groups or at least three substituted hydroxyl groups, and comprising at least one cyclic structure. The present invention relates to a pos. resist composition used in a process of manufacture semiconductors and which far UV light with wavelengths ≤ 250 nm is used as an exposure light source or an electron beam is used as an irradiation source.				
IC	ICM G03F007-039				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
	Section cross-reference(s): 35, 38, 76				
ST	pos photoresist compn				
IT	Positive photoresists				
	(pos. photoresist composition)				
IT	Polysiloxanes, uses				
	RL: TEM (Technical or engineered material use); USES (Uses)				
	(surfactant; pos. photoresist composition containing)				
IT	24979-70-2DP, VP15000, reaction product with Et vinyl ether 129674-22-2P				
	159296-87-4P	177034-73-0P	177034-75-2P	199432-82-1P	200808-68-0P
	228101-60-8P	250378-10-0P	Butyrolactone methacrylate-2-ethyl-2-		
	adamantylmethacrylate copolymer	262617-13-0P	288303-55-9P		
	288620-13-3P	288620-15-5P	289706-85-0P	325143-38-2P	326591-96-2P
	364736-22-1P	372968-15-5P	391232-36-3P	398140-38-0P	398140-43-7P
	398140-45-9P	398140-47-1P	398140-50-6P	398140-52-8P	398140-55-1P
	398140-57-3P	398140-59-5P	398140-64-2P	398140-69-7P	398140-73-3P
	398140-77-7P	398140-78-8P	398140-79-9P	398140-81-3P	398140-86-8P
	398140-87-9P	398140-88-0P	398140-89-1P	398140-94-8P	398141-00-9P
	398141-11-2P	398141-13-4P	398141-14-5P	405509-18-4P	430436-66-1P
	430436-67-2P	430436-68-3P	430436-70-7P	430436-72-9P	430436-74-1P
	430436-76-3P	430436-78-5P	430436-79-6P	430436-81-0P	430436-82-1P

430436-84-3P 430436-85-4P 430436-86-5P 430436-87-6P 430436-89-8P
 430436-90-1P 430436-91-2P 430436-92-3P 430436-94-5P 430436-95-6P
 430436-97-8P 430436-98-9P 430436-99-0P 430437-09-5P
430437-11-9P 430437-12-0P 430437-13-1P 430437-14-2P
 430437-15-3P 430437-17-5P 430437-18-6P 430437-19-7P 430437-21-1P
 430437-22-2P 430437-24-4P 431062-12-3P 431062-14-5P 431062-16-7P
 431062-17-8P 503003-64-3P 503003-65-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (pos. photoresist composition containing)

IT 109-92-2DP, Ethyl vinyl ether, reaction product with polyhydroxystyrene
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(pos. photoresist composition containing)

IT 57-55-6, Propylene glycol, uses 67-68-5, Dimethyl sulfoxide, uses
 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate 107-21-1,
 Ethylene glycol, uses 108-94-1, Cyclohexanone, uses 109-86-4, Ethylene
 glycol monomethyl ether 110-43-0, 2-Heptanone 110-80-5, Ethylene
 glycol monoethyl ether 123-86-4, Butyl ac-etate 127-19-5,
 N,N-Dimethylacetamide 763-69-9 872-50-4, N-Methylpyrrolidone, uses
 1320-67-8, Propylene glycol monomethyl ether 52125-53-8, Propylene
 glycol monoethyl ether 84540-57-8, Propylene glycol monomethyl ether
 acetate

RL: TEM (Technical or engineered material use); USES (Uses)
 (solvent; pos. photoresist composition containing)

IT 137462-24-9, Megafac F176 216679-67-3, Megafac R08
 RL: TEM (Technical or engineered material use); USES (Uses)
 (surfactant; pos. photoresist composition containing)

IT **430437-11-9P**

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (pos. photoresist composition containing)

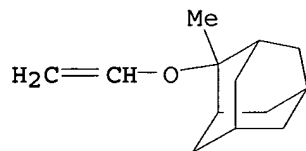
RN 430437-11-9 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2
 .2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-
 methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

CM 1

CRN 430437-10-8

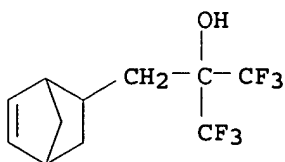
CMF C13 H20 O



CM 2

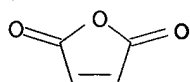
CRN 196314-61-1

CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:111386 HCAPLUS

DN 138:145076

TI Chemically amplified positive-working photoresist composition

IN Araki, Kaori; Kuwana, Koji; Uetani, Yasunori

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003043689	A2	20030213	JP 2001-234648	20010802
PRAI	JP 2001-234648		20010802		

AB Title resist composition, suitable for use in ArF or KrF excimer laser lithog. and having good balance of resolution and sensitivity, comprises an acid-forming agent and an alkali-insol. resin component which contains structural units derived from monomer $\text{ACH}_2(\text{CR}_1\text{R}_2)_n\text{CR}_3\text{R}_4\text{OH}$ (A = 2-norbornen-5-yl; n = 0-4; R₁, R₂ = H, C1-4 alkyl; R₃, R₄ = C1-6 alkyl including at least one fluorine-substituted alkyl) and is becomes soluble in alkali by reacting with an acid.

IC ICM G03F007-039

ICS C08F032-04; G03F007-004; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST chem amplified pos working photoresist excimer laser lithog;
photosensitive acid generator pos working photoresist

IT Positive photoresists

(chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

IT 177034-80-9

RL: MOA (Modifier or additive use); USES (Uses)

(acid-forming agent; chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

IT 492470-60-7P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

IT 196314-61-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (preparation of chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

IT 542-92-7, Cyclopentadiene, reactions 646-97-9

RL: RCT (Reactant); RACT (Reactant or reagent) (preparation of chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

IT 24544-04-5, 2,6-Diisopropylaniline

RL: MOA (Modifier or additive use); USES (Uses) (quencher; chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

IT 492470-60-7P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (chemical amplified pos.-working photoresist composition containing photosensitive acid generator)

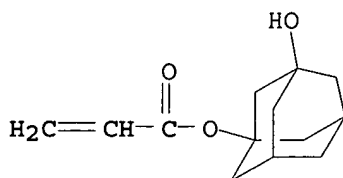
RN 492470-60-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-ethyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 216581-76-9

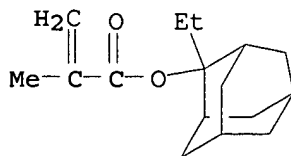
CMF C13 H18 O3



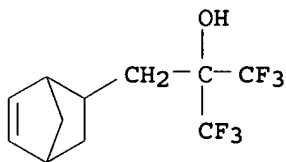
CM 2

CRN 209982-56-9

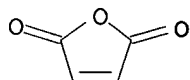
CMF C16 H24 O2



CM 3

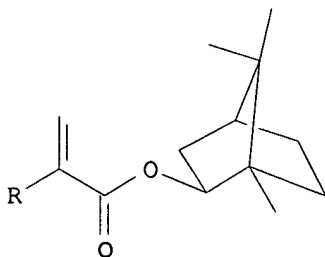
CRN 196314-61-1
CMF C11 H12 F6 O

CM 4

CRN 108-31-6
CMF C4 H2 O3

L8 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:110930 HCAPLUS
DN 138:178230
TI Fluorine-containing bicycloheptyl acrylates, their manufacture, their transparent polymers, and photoresists and antireflective materials using them
IN Kakuta, Shinichi; Komoritani, Haruhiko; Maeda, Kazuhiko
PA Central Glass Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 2003040926	A2	20030213	JP 2001-226582	20010726
PRAI	JP 2001-226582		20010726		
OS	MARPAT 138:178230				
GI					



I

AB The invention relates to F-containing acrylates I (R = F, C1-10-fluorohydrocarbyl). The polymers may comprise other acrylates, norbornenes, styrene derivs., or vinyl ethers.

IC ICM C08F020-22
ICS C07C067-04; C07C069-653; G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST bicycloheptyl acrylate fluoropolymer photoresist transparency; antireflective film display bicycloheptyl acrylate fluoropolymer

IT Antireflective films
Photoresists
Transparent materials
(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

IT Fluoropolymers, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

IT 496954-69-9P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

IT 496954-70-2P 496954-71-3P 496954-72-4P 496954-73-5P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

IT 79-92-5, Camphene 381-98-6, 2-Trifluoromethyl acrylic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

IT 496954-73-5P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(F-containing bicycloheptyl acrylates for transparent polymers for photoresists and antireflective films)

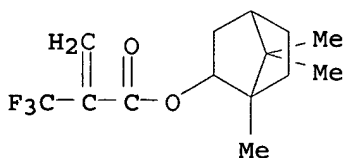
RN 496954-73-5 HCAPLUS

CN 2-Propenoic acid, 2-(trifluoromethyl)-, 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol, 2,5-furandione and 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-(trifluoromethyl)-2-propenoate (9CI) (CA INDEX NAME)

CM 1

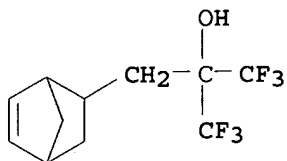
CRN 496954-69-9

CMF C14 H19 F3 O2



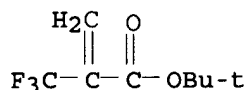
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



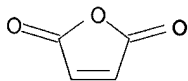
CM 3

CRN 105935-24-8
CMF C8 H11 F3 O2



CM 4

CRN 108-31-6
CMF C4 H2 O3



L8 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:907052 HCAPLUS
DN 138:9662
TI Negative photoresist composition for a method for fabricating a semiconductor device
IN Kozawa, Miwa; Nozaki, Koji; Watanabe, Keiji; Yano, Ei
PA Fujitsu Limited, Japan
SO U.S. Pat. Appl. Publ., 24 pp., Cont.-in-part of U.S. Ser. No. 785,306.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002177070	A1	20021128	US 2002-97818	20020315
	US 2001036594	A1	20011101	US 2001-785306	20010220
	JP 2001343748	A2	20011214	JP 2001-93727	20010328
PRAI	JP 2000-89790	A	20000328		
	US 2001-785306	A2	20010220		
	JP 2001-93727	A	20010328		

GI



I

AB The present invention relates to a neg. photoresist composition containing an alkaline-soluble resin as a base material, in which an oxetane structure represented by I is contained in a structure of the alkaline-soluble resin or in a structure of a compound used in combination with the alkaline-soluble resin.

IC ICM G03F007-038

ICS G03F007-075; G03F007-004; G03F007-11; G03F007-36; G03F007-30;
G03F007-40

INCL 430270100; 430271100; 430325000; 430326000; 430311000; 430313000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

ST eg resist compn pattern fabricating semiconductor device photolithog

IT Photolithography

Semiconductor device fabrication

(neg. photoresist composition for method for)

IT Photoresists

(neg. photoresist composition for method for fabricating semiconductor device)

IT 343615-46-3P 370588-70-8P 477327-40-5P 477327-41-6P 477327-43-8P
477327-44-9P 477327-45-0P 477327-47-2P 477327-49-4P
477327-50-7P 477327-51-8P 477327-52-9P 477327-54-1P 477327-55-2P
477327-63-2P 477327-73-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(neg. photoresist composition for method for fabricating semiconductor device containing)

IT 138517-49-4 402751-39-7

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(neg. photoresist composition for method for fabricating semiconductor device containing)

IT 59269-51-1, Poly(hydroxystyrene)

RL: TEM (Technical or engineered material use); USES (Uses)

(neg. photoresist composition for method for fabricating semiconductor device containing)

IT 477327-49-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(neg. photoresist composition for method for fabricating semiconductor device containing)

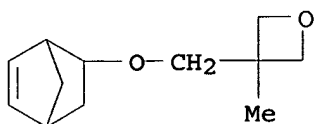
RN 477327-49-4 HCAPLUS

CN 2,5-Furandione, polymer with 3-[(bicyclo[2.2.1]hept-5-en-2-yloxy)methyl]-3-methyloxetane and α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 477327-48-3

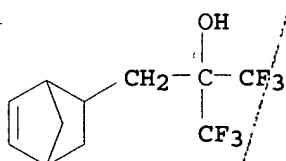
CMF C12 H18 O2



CM 2

CRN 196314-61-1

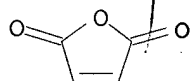
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:392162 HCAPLUS

DN 136:409022

TI Positive resist composition

IN Aoi, Toshiaki; Yasunami, Shoichiro; Mizutani, Kazuyoshi; Kanna, Shinichi

PA Fuji Photo Film Co., Ltd., Japan

SO U.S. Pat. Appl. Publ., 56 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002061464	A1	20020523	US 2001-961281	20010925
	US 6852467	B2	20050208		
	JP 2002333715	A2	20021122	JP 2001-202298	20010703
	TW 528931	B	20030421	TW 2001-90123599	20010925
PRAI	JP 2000-292537	A	20000926		
	JP 2000-379284	A	20001213		
	JP 2001-62158	A	20010306		
	JP 2001-202298	A	20010703		

AB The present invention relates to a pos. resist composition comprising: (A) a

fluorine group-containing resin having at least one fluorine atom on at least one of the main chain and the side chain of the polymer skeleton; and having a group capable of decomposing under the action of an acid to increase the solubility in an alkali developer; (B) a compound capable of generating an acid upon irradiation with one of actinic ray and radiation; and (C) a surfactant containing at least one of a silicon atom and a fluorine atom. The present invention provides a pos. photoresist composition suitable for use in the microlithog. process in the production of VLSI or high-capacity microchip, or in other photo-fabrication processes. The invention pos. photoresist composition is capable of forming a highly definite pattern using a vacuum UV ray of < 160 nm.

IC ICM G03F007-004

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 76

ST photoresist fluorine contg resin compn surfactant photolithog UV

IT Surfactants

(fluorine group-containing pos. resist composition containing)

IT Positive photoresists

(fluorine group-containing resin for pos. resist composition)

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)

(surfactant; fluorine group-containing pos. resist composition containing)

IT Photolithography

(vacuum UV; fluorine group-containing resin for pos. resist composition for)

IT 262617-13-0P 430436-66-1P 430436-67-2P 430436-68-3P 430436-70-7P

430436-72-9P 430436-74-1P 430436-76-3P 430436-78-5P 430436-79-6P

430436-81-0P 430436-82-1P 430436-84-3P 430436-85-4P 430436-86-5P

430436-87-6P 430436-89-8P 430436-90-1P 430436-91-2P 430436-92-3P

430436-94-5P 430436-95-6P 430436-97-8P 430436-98-9P 430436-99-0P

430437-01-7P 430437-03-9P 430437-04-0P 430437-05-1P 430437-07-3P

430437-09-5P 430437-11-9P 430437-12-0P 430437-13-1P

430437-14-2P 430437-15-3P 430437-17-5P 430437-18-6P 430437-19-7P

430437-21-1P 430437-22-2P 430437-24-4P 430437-26-6P 430437-27-7P

430437-29-9P 430437-30-2P 430437-32-4P 430437-33-5P 430437-34-6P

430437-35-7P 430437-36-8P 430437-37-9P 430437-38-0P 430437-39-1P

430437-40-4P 430437-42-6P 430437-44-8P 430437-46-0P 431062-12-3P

431062-14-5P 431062-16-7P 431062-17-8P 431062-18-9P 431062-20-3P

431062-22-5P 431062-24-7P 431062-25-8P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(fluorine group-containing resin for pos. resist composition)

IT 144317-44-2, Triphenylsulfonium nonaflate

RL: TEM (Technical or engineered material use); USES (Uses)

(photoacid generator; fluorine group-containing pos. resist composition containing)

IT 9016-45-9, Polyoxyethylene nonylphenyl ether 137462-24-9, Megafac F176

216679-67-3, Megafac R08

RL: TEM (Technical or engineered material use); USES (Uses)

(surfactant; fluorine group-containing pos. resist composition containing)

IT 430437-11-9P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(fluorine group-containing resin for pos. resist composition)

RN 430437-11-9 HCAPLUS

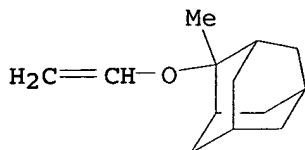
CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2

.2.1]hept-5-ene-2-ethanol and 2-(ethenyloxy)-2-

methyltricyclo[3.3.1.1^{3,7}]decane (9CI) (CA INDEX NAME)

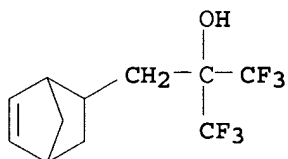
CM 1

CRN 430437-10-8
CMF C13 H20 O



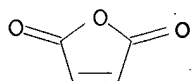
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:169230 HCAPLUS
DN 136:224210
TI Negative resist composition and photolithographic process for
manufacturing of electronic devices
IN Nozaki, Koji; Yano, Ei; Kozawa, Miwa
PA Fujitsu Limited, Japan
SO Eur. Pat. Appl., 47 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1184723	A2	20020306	EP 2001-307380	20010830
	EP 1184723	A3	20030917		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, SI, LT, LV, FI, RO

JP 2002148805 A2 20020522 JP 2001-168630 20010604
 US 2002058197 A1 20020516 US 2001-935832 20010824
 US 6770417 B2 20040803
 TW 227813 B1 20050211 TW 2001-90121326 20010829
 PRAI JP 2000-266041 A 20000901
 JP 2001-168630 A 20010604

AB A neg. resist composition is provided which comprises at least a constituent component which has a vinyl ether structure protected with an acetal in a mol. In the formation of neg. resist patterns, an aqueous basic solution can be used without swelling. A process is also provided for forming a resist pattern, which comprises the steps of: applying a neg. resist composition comprising at least a constituent component which has a vinyl ether structure protected with an acetal in a mol., on a treated substrate; selectively exposing the formed resist film to imaging radiation capable of provoking decomposition of a photoacid generator of the resist composition, and developing the exposed resist film with an aqueous basic solution. A process is also provided for manufacturing an electronic device, which comprises the step of selectively removing an underlying treated substrate using a resist pattern, formed from the above-mentioned process, as a masking means to form a predetd. functional element layer.

IC ICM G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 76

ST neg photoresist compn photolithog UV MOS transistor fabrication; magnetic recording head fabrication neg photoresist compn photolithog UV; semiconductor device fabrication magnetic recording head MOS transistor photolithog

IT Photolithography
 (UV; neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

IT MOS transistors
 Magnetic recording heads
 Negative photoresists
 Semiconductor device fabrication
 (neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

IT Polysiloxanes, properties
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

IT 33693-68-4DP, reaction products with 2-cyanoethyltrichlorosilane hydrolytic homopolymer 181036-41-9DP, 2-Cyanoethyltrichlorosilane hydrolytic homopolymer, reaction products with 2(3H)-Furanone, 3-bromodihydro-4-methyl- and 2-methoxy-6-bromomethyltetrahydropyran
 402751-01-3P 402751-04-6P 402751-07-9P 402751-09-1P 402751-11-5P
 402751-17-1P 402751-22-8P 402751-28-4P 402751-34-2P
 402751-50-2P 402751-54-6P 402751-56-8P 402751-59-1DP, reaction products with 2-cyanoethyltrichlorosilane hydrolytic homopolymer
 402755-85-5P 402758-23-0P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

IT 402751-39-7 402751-45-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

IT 96-48-0, γ -Butyrolactone 97-64-3, Ethyl lactate
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

IT 402751-22-8P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(neg. resist composition and photolithog. process for fabrication of MOS transistors and thin-film magnetic heads)

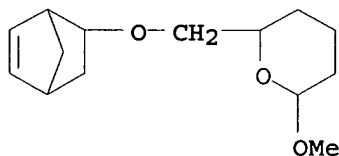
RN 402751-22-8 HCAPLUS

CN 2,5-Furandione, polymer with 2-[(bicyclo[2.2.1]hept-5-en-2-yloxy)methyl]tetrahydro-6-methoxy-2H-pyran and α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 402751-21-7

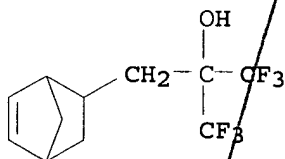
CMF C14 H22 O3



CM 2

CRN 196314-61-1

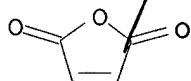
CMF C11 H12 F6 O



CM 3

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:918945 HCAPLUS
DN 136:45683

TI Radiation-sensitive resin composition for chemical amplified resist
 IN Nishimura, Yukio; Yamahara, Noboru; Yamamoto, Masafumi; Kajita, Toru;
 Shimokawa, Tsutomu; Ito, Hiroshi
 PA JSR Corporation, Japan; International Business Machines Corporation
 SO Eur. Pat. Appl., 63 pp.
 CODEN: EPXXDW

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1164434	A2	20011219	EP 2001-114503	20010615
	EP 1164434	A3	20041222		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002072484	A2	20020312	JP 2001-108824	20010406
	US 2002009668	A1	20020124	US 2001-879894	20010614
	US 6800414	B2	20041005		
	SG 100729	A1	20031226	SG 2001-3498	20010614
	CN 1332205	A	20020123	CN 2001-124927	20010615
	TW 536661	B	20030611	TW 2001-90114559	20010615
	US 2004241580	A1	20041202	US 2004-867892	20040616
	US 6964840	B2	20051115		
PRAI	JP 2000-182297	A	20000616		
	JP 2001-108824	A	20010406		
	US 2001-879894	A1	20010614		
OS	MARPAT 136:45683				
AB	A radiation-sensitive resin composition comprising an acid-labile group-containing resin and a photoacid generator is disclosed. The resin has a structure of X1R2COR1 (R1 = H, monovalent acid-labile group, C1-6 alkyl which does not have an acid-labile group, C2-7 alkylcarbonyl which does not have an acid-labile group; X1 = C1-4 fluorinated alkyl; and R2 = H, C1-10 alkyl, C1-10 fluorinated alkyl). The resin composition exhibits high transmittance of radiation, high sensitivity, resolution, and pattern shape, and is useful as a chemical amplified resist in producing semiconductors at a high yield.				
IC	ICM G03F007-004 ICS G03F007-039				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 35, 38, 76				
ST	chem amplified radiation electron beam photoresist microfabrication				
IT	Photoresists (acid-labile group-containing resin for radiation-sensitive resist composition)				
IT	Polyalkenamers RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (acid-labile group-containing resin for radiation-sensitive resist composition)				
IT	Semiconductor device fabrication (radiation-sensitive resist composition for)				
IT	1116-76-3, Tri-n-octylamine 2052-49-5, Tetra-n-butylammoniumhydroxide 4847-93-2, 3-Piperidino-1,2-propanediol 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole 330576-56-2, N-tert-Butoxycarbonyldicyclohexylamine RL: TEM (Technical or engineered material use); USES (Uses) (acid diffusion control agent for radiation-sensitive resist composition)				
IT	144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate 194999-85-4 213740-80-8 307531-76-6 330576-58-4 380886-84-0 RL: TEM (Technical or engineered material use); USES (Uses) (acid generator for radiation-sensitive resist composition)				
IT	370099-14-2P 370102-83-3P 380886-62-4P 380886-63-5P				

380886-66-8P 380886-68-0P 380886-69-1P

380886-70-4P 380886-71-5P 380886-72-6DP, hydrogenated

380886-72-6P 380886-73-7DP, hydrogenated 380886-74-8DP, hydrogenated

380886-74-8P 380886-75-9DP, hydrogenated 380886-76-0DP, hydrogenated

380886-76-0P 380886-77-1DP, hydrogenated 380886-78-2P

380886-79-3P 380886-80-6P 380886-81-7P 380886-82-8P

380886-83-9P 380915-67-3P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acid-labile group-containing resin for radiation-sensitive resist composition)

IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1, Di-tert-butyl
1,3-adamantanedicarboxylate 231296-44-9, t-Butoxycarbonylmethyldeoxychol
ate 296242-01-8

RL: TEM (Technical or engineered material use); USES (Uses)

(alicyclic additive for radiation-sensitive resist composition)

IT 77-73-6, Dicyclopentadiene 542-92-7, Cyclopentadiene, reactions
646-97-9, 1,1-Bis(trifluoromethyl)-3-buten-1-ol 5292-43-3, tert-Butyl
bromoacetate

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of acid-labile group-containing resin for radiation-sensitive resist composition)

IT 196314-61-1P 196314-63-3P 365533-00-2P 380886-59-9P 380886-60-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of acid-labile group-containing resin for radiation-sensitive resist composition)

IT 380886-63-5P 380886-66-8P 380886-68-0P

380886-69-1P 380886-70-4P 380886-71-5P

380886-78-2P 380886-79-3P 380886-80-6P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(acid-labile group-containing resin for radiation-sensitive resist composition)

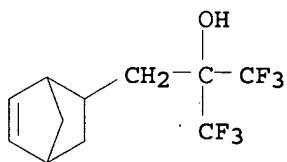
RN 380886-63-5 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-
2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

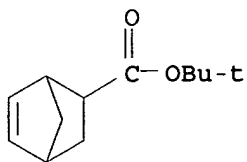
CMF C11 H12 F6 O



CM 2

CRN 154970-45-3

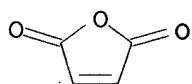
CMF C12 H18 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



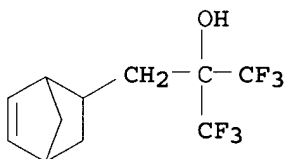
RN 380886-66-8 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-
2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

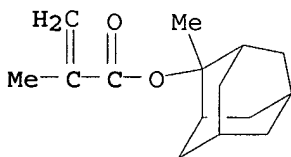
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

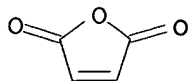
CMF C15 H22 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



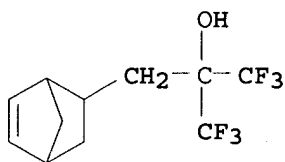
RN 380886-68-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.1^{3,7}]dec-2-yl ester,
polymer with bicyclo[2.2.1]hept-2-ene, α,α -
bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione
(9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

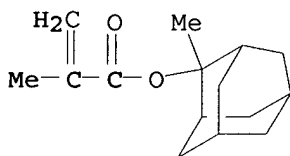
CMF C11 H12 F6 O



CM 2

CRN 177080-67-0

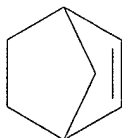
CMF C15 H22 O2



CM 3

CRN 498-66-8

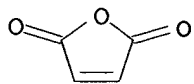
CMF C7 H10



CM 4

CRN 108-31-6

CMF C4 H2 O3



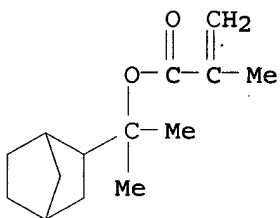
RN 380886-69-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 1-bicyclo[2.2.1]hept-2-yl-1-methylethyl ester, polymer with bicyclo[2.2.1]hept-2-ene, α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 342014-18-0

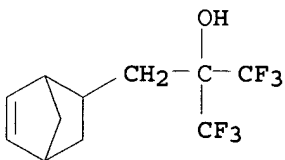
CMF C14 H22 O2



CM 2

CRN 196314-61-1

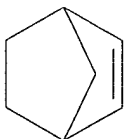
CMF C11 H12 F6 O



CM 3

CRN 498-66-8

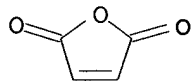
CMF C7 H10



CM 4

CRN 108-31-6

CMF C4 H2 O3



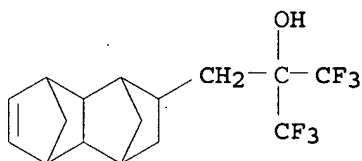
RN 380886-70-4 HCAPLUS

CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1,1-dimethylethyl ester,
polymer with 2,5-furandione and 1,2,3,4,4a,5,8,8a-octahydro-
 α,α -bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-2-
ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 365533-00-2

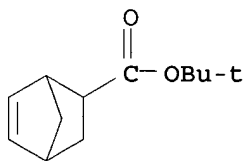
CMF C16 H18 F6 O



CM 2

CRN 154970-45-3

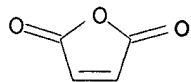
CMF C12 H18 O2



CM 3

CRN 108-31-6

CMF C4 H2 O3



RN 380886-71-5 HCAPLUS

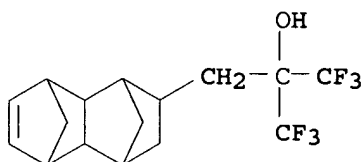
CN 2-Propenoic acid, 2-methyl-, 1-bicyclo[2.2.1]hept-2-yl-1-methylethyl

ester, polymer with bicyclo[2.2.1]hept-2-ene, 2,5-furandione and
1,2,3,4,4a,5,8,8a-octahydro- α,α -bis(trifluoromethyl)-1,4:5,8-
dimethanonaphthalene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 365533-00-2

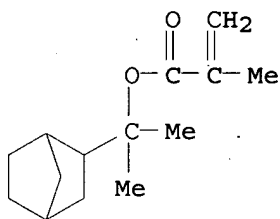
CMF C16 H18 F6 O



CM 2

CRN 342014-18-0

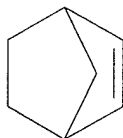
CMF C14 H22 O2



CM 3

CRN 498-66-8

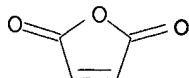
CMF C7 H10



CM 4

CRN 108-31-6

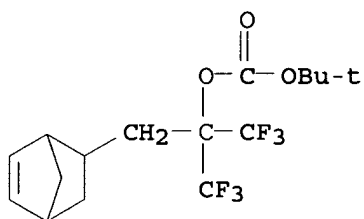
CMF C4 H2 O3



RN 380886-78-2 HCAPLUS
CN Carbonic acid, 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl ester, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

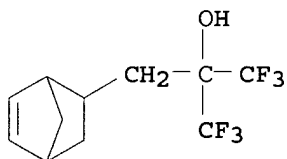
CM 1

CRN 196314-63-3
CMF C16 H20 F6 O3



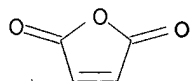
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3

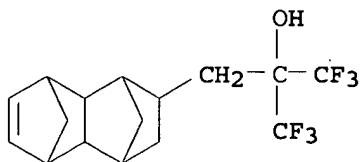


RN 380886-79-3 HCAPLUS
CN Carbonic acid, 1-(bicyclo[2.2.1]hept-5-en-2-ylmethyl)-2,2,2-trifluoro-1-(trifluoromethyl)ethyl 1,1-dimethylethyl ester, polymer with 2,5-furandione and 1,2,3,4,4a,5,8,8a-octahydro- α,α -bis(trifluoromethyl)-1,4:5,8-dimethanonaphthalene-2-ethanol (9CI) (CA INDEX NAME)

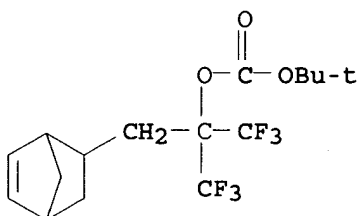
CM 1

CRN 365533-00-2

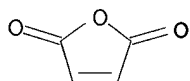
CMF C16 H18 F6 O



CM 2

CRN 196314-63-3
CMF C16 H20 F6 O3

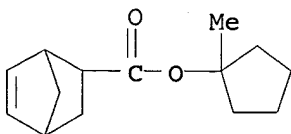
CM 3

CRN 108-31-6
CMF C4 H2 O3

RN 380886-80-6 HCAPLUS

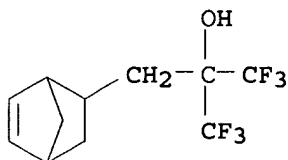
CN Bicyclo[2.2.1]hept-5-ene-2-carboxylic acid, 1-methylcyclopentyl ester,
polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-
2-ethanol and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 369648-89-5
CMF C14 H20 O2

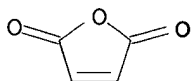
CM 2

CRN 196314-61-1
CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3



L8 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:636379 HCAPLUS
DN 135:218727
TI Resist materials for 157-nm lithography
IN Fedynyshyn, Theodore H.
PA Massachusetts Institute of Technology, Inc., USA
SO PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001063362	A2	20010830	WO 2001-US5907	20010226
	WO 2001063362	A3	20020307		
	W: CA, JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	US 6468712	B1	20021022	US 2000-513792	20000225
	EP 1257880	A2	20021120	EP 2001-911149	20010226
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2003524211	T2	20030812	JP 2001-562262	20010226
	US 2003157431	A1	20030821	US 2002-271807	20021016
	US 6815145	B2	20041109		
PRAI	US 2000-513792	A	20000225		
	WO 2001-US5907	W	20010226		
AB	The invention relates to photoresist materials useful in microlithog. and to improved materials and methods for pattern formation on semiconductor wafers. A radiation sensitive resin composition including a photo-acid generator and an aliphatic polymer having ≥ 1 electron withdrawing groups adjacent to or attached to a C atom bearing a protected hydroxyl group, wherein the protecting group is labile in the presence of in situ generated acid is described. The radiation sensitive resin composition can be				

used as a resist suitable for image transfer by plasma etching and enable 1 to obtain an etching image having high precision with high reproducibility with a high degree of resolution and selectivity.

IC ICM G03F007-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST resist 157 nm lithog

IT Lithography
Photoresists

(pos. photoresist composition for 157-nm lithog. using)

IT 25211-99-8D, functional-group protected 25568-84-7D, Cyclopentadiene homopolymer, reaction products with hexafluoroacetone, functional-group protected 219552-58-6D, functional-group protected 357397-03-6 357397-04-7D, functional-group protected 357397-05-8D, functional-group protected 357397-06-9D, functional-group protected 357397-07-0D, functional-group protected 357397-08-1D, functional-group protected 357397-09-2D, functional-group protected 357397-11-6D, functional-group protected 357397-12-7D, functional-group protected RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(pos. photoresist composition for 157-nm lithog. using)

IT 357397-09-2D, functional-group protected

RL: DEV (Device component use); POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(pos. photoresist composition for 157-nm lithog. using)

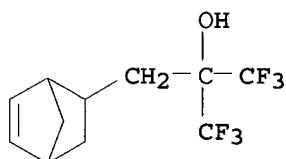
RN 357397-09-2 HCAPLUS

CN 2,5-Furandione, polymer with α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 196314-61-1

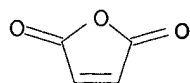
CMF C11 H12 F6 O



CM 2

CRN 108-31-6

CMF C4 H2 O3



L8 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:806316 HCAPLUS

DN 134:200382

TI Negative-tone 193-nm resists

AU Cho, Sungseo; Vander Heyden, Anthony; Byers, Jeffrey D.; Willson, C. Grant
CS Univ. of Texas at Austin, Austin, TX, USA
SO Proceedings of SPIE-The International Society for Optical Engineering
(2000), 3999(Pt. 1, Advances in Resist Technology and Processing XVII),
62-73

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering
DT Journal
LA English

AB A great deal of progress has been made in the design of single layer pos. tone resists for 193 nm lithog. Com. samples of such materials are now available from many vendors. The patterning of certain levels of devices profits from the use of neg. tone resists. There have been several reports of work directed toward the design of neg. tone resists for 193 nm exposure but, none have performed as well as the pos. tone systems. Polymers with alicyclic structures in the backbone have emerged as excellent platforms from which to design pos. tone resists for 193 nm exposure. The authors report the adaptation of this class of polymers to the design of high performance neg. tone 193 nm resists. New systems have been prepared that are based on a polarity switch mechanism for modulation of the dissoln. rate. The systems are based on a polar, alicyclic polymer backbone that includes a monomer bearing a glycol pendant group that undergoes the acid catalyzed pinacol rearrangement upon exposure and bake to produce the corresponding less polar ketone. This monomer was copolymerized with maleic anhydride and a norbornene bearing a bis-trifluoromethylcarbinol. The rearrangement of the copolymer was monitored by FT-IR as a function of temperature. The synthesis of the norbornene monomers will be presented together with characterization of copolymers of these monomers with maleic anhydride. The lithog. performance of the new resist system will also be presented.

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST lithog vacuum UV photoresist alicyclic polymer backbone glycol pendant; maleic anhydride norbornene trifluoromethylcarbinol glycol pendant polymer photoresist

IT Negative photoresists
(photoresist for 193 nm lithog. containing terpolymer of maleic anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

IT Rearrangement
(pinacol, photochem.; photoresist for 193 nm lithog. containing terpolymer of maleic anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

IT 75-59-2, Tetramethylammoniumhydroxide
RL: NUU (Other use, unclassified); USES (Uses)
(developer; photoresist for 193 nm lithog. containing terpolymer of maleic anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

IT 144317-44-2, Triphenylsulfonium nonaflate
RL: NUU (Other use, unclassified); USES (Uses)
(photoacid generator; photoresist for 193 nm lithog. containing terpolymer of maleic anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

IT 327610-81-1P 327610-82-2P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist for 193 nm lithog. containing terpolymer of maleic anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

IT 196314-61-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polymerization with maleic anhydride and (dihydroxydimethylbutyl)bicyclo[2.2.1]heptene in synthesis of polymer photoresists for 193 nm lithog.)

IT 327610-80-0P, 5-(2,3-Dihydroxy-2,3-dimethylbutyl)bicyclo[2.2.1]heptene

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(polymerization with maleic anhydride in synthesis of polymer photoresists for 193 nm lithog.)

IT 17016-12-5P, 5-Bromomethylbicyclo[2.2.1]hept-2-ene 60283-66-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of (dihydroxydimethylbutyl)bicycloheptene for preparation of polymer photoresists for 193 nm lithog.)

IT 646-97-9P, 1,1,1-Trifluoro-2-(trifluoromethyl)pent-4-en-2-ol

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of bis(trifluoromethyl)hydroxyethylbicycloheptene in synthesis of polymer photoresists for 193 nm lithog.)

IT 327610-81-1P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(photoresist for 193 nm lithog. containing terpolymer of maleic anhydride and norbornene with bis-trifluoromethylcarbinol and norbornene with glycol pendant group that undergoes acid catalyzed pinacol rearrangement)

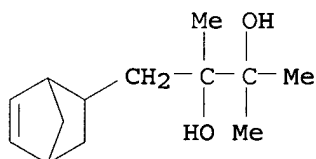
RN 327610-81-1 HCAPLUS

CN 2,5-Furandione, polymer with 1-bicyclo[2.2.1]hept-5-en-2-yl-2,3-dimethyl-2,3-butanediol and α,α -bis(trifluoromethyl)bicyclo[2.2.1]hept-5-ene-2-ethanol (9CI) (CA INDEX NAME)

CM 1

CRN 327610-80-0

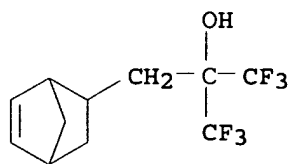
CMF C13 H22 O2



CM 2

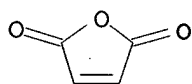
CRN 196314-61-1

CMF C11 H12 F6 O



CM 3

CRN 108-31-6
CMF C4 H2 O3



RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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